Ministry of
Northern Development
and Mines
Ontario

Ontario Geological Survey
Open File Report 5911

Digital Data on Mineral Prospects in the Swayze Greenstone Belt

Plus

A Computer Application to Update and Edit Data Using FoxPro®

1995

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ONTARIO GEOLOGICAL SURVEY

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Digital Data on Mineral Prospects in the Swayze Greenstone Belt

Plus

A Computer Application to Update and Edit Data Using FoxPro®

By

S. Fumerton, K. Houle and G. Archibald

1995

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Ontario Geological Survey

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FOREWORD

This report comprises descriptions of mineral prospects within the Swayze greenstone belt and surrounding granitic and metamorphic terranes in a digital form. The property descriptions, which are the major part of the report, are comprehensive summaries of location, access, exploration history, ownership, development, geology, mineralization, reserves and production of the prospects. These descriptions incorporate extensive field examination, laboratory work, literature search and are invaluable, time saving information sources for explorationists.

Included with the report, is the computer application that was generated in order to enter the data into a digital database and print the individual mineral prospect summaries for a companion Open File Report. This application permits the prospect descriptions to be viewed on a computer screen provided the same software is used. Such an application permits explorationists to add their own observations to the database.

J. Wood
Director,
Ontario Geological Survey

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Publication #
Authors
Initials
Year
Title
Publication

PULL DOWN SCREENS *Assessment File #*

Local #
File #

PULL DOWN SCREENS *Assessment*

Assessment File
AFRI Number
Company
Year
Work Geological
Amount
Geophysical
Amount
Geochemical
Amount
Drilling
Meterage
Holes
Prospecting
Amount
Physical
Amount

PULL DOWN SCREENS *Sketches*

Prospect
Title
Author
Sequence #
Sketch

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Prospect
Sequence #
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Disk #2 ╝

Disk #3 FoxPro® Data disk compressed with PKZIP®

Disk #4 dBase® Data disk compressed with PKZIP®

ABSTRACT

The Swayze greenstone belt represents the western extension of the prolific Abitibi greenstone belt. This study area encompasses one hundred and eighty two townships but most of the work has been carried out in ninety townships centred on the Swayze greenstone belt, between Timmins, Chapleau, and Sudbury. The 182 townships originally were part of the Sudbury Mining Division, but are now part of the Porcupine Mining Division. Rocks underlying the study area include parts of the Kapuskasing Structural Zone, granitic batholiths that surround the Swayze greenstone belt, and the metavolcanic and metasedimentary rocks of the Swayze greenstone belt.

Digital data systematically collected on three hundred and seventy one mineral prospects are documented in this report. Another sixty four rudimentary files have been opened on other mineral prospects within the study area for the sake of completeness. These documented mineral prospects include precious metal, base metal, industrial mineral and construction material prospects collected during the past three years, but do not include any fuel, sand and gravel prospects,. The data are released in the working format, FoxPro®, in seventeen related tables within a database. In addition the data have be converted to the more common dBASE® format. The data have not been converted to straight ASCII files or any other digital format, though a hard copy of the data is to be released under a separate cover.

The application used to enter and view the data is included with this report and was developed using the DOS version of the FoxPro 2.5a, 2.5b, and 2.6® database software. An earlier version was developed using FoxPro® 2.0 (Fumerton *et al* 1993). In order to run this application the FoxPro® 2.5 or 2.6 software is required. Most of the text in this report is devoted to explaining the structure of the computer application, the type of data recorded, the location of the various data, the constraints on the variability of the data, and definitions.

DIGITAL DATA ON MINERAL PROSPECTS IN THE SWAYZE GREENSTONE BELT.

PLUS

A COMPUTER APPLICATION TO UPDATE AND EDIT DATA USING FOXPRO®

by
Stew Fumerton, Kevin Houle and Gary Archibald[1]

Resident Geologist's Office
Timmins

---

[1]With Gordian Knot Computer Solutions.

INTRODUCTION

Results obtained in a study to document mineral prospects in the Swayze greenstone belt are presented in a digital format. The study started in the spring of 1992 and was a three-year project funded under the Northern Ontario Development Agreement (NODA), a joint effort by the Governments of Canada and Ontario. During this study three hundred and seventy one mineral prospects in one hundred and eighty two townships have been documented in detail and some data on another sixty four prospects are also included for the sake of completeness (Figure 1).

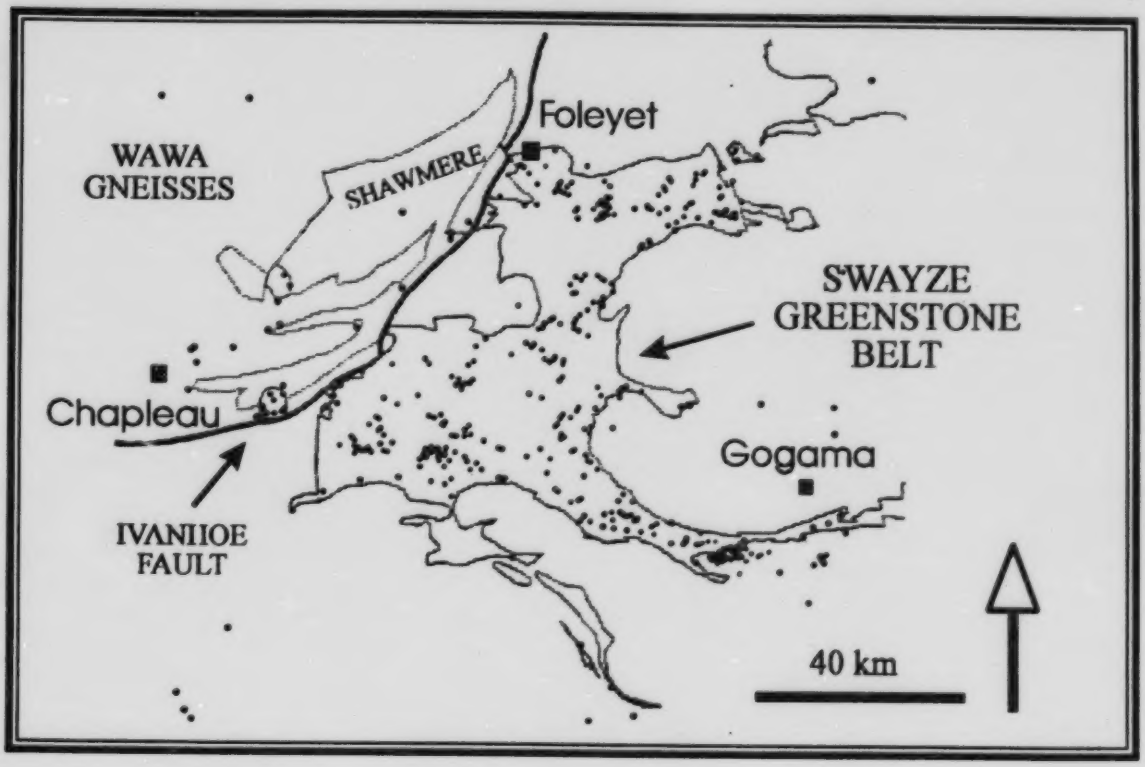

Figure 1 Distribution of documented mineral prospects in the Swayze greenstone belt and surrounding terrains.

The objectives of the study were:- 1) to research all published literature and public files for reported mineral prospects, 2) locate these prospects in the field where possible, 3) examine the geology and mineralization, 4) assay the mineralization where appropriate, and 5) document the results of the investigations. The method of documentation is in a digital database that included general comments by various geologists on the mineral prospect, assay results, reserve information, production information, specific published references, and specific assessment work filed on a

prospect. A feature of the desired database was that observations could be updated continuously with additional work.

Data collection quickly highlighted the need for a single and open database application that could record field observations on mineral prospects in a diversity of geological environments. Such an application would also allow geologists to review large databases and test various geological hypotheses and permit ranking of the mineral prospects on their economic potential. In addition, such a field-based mineral prospect application would also result in increased standardization of the data and readily permit incorporation of selected parts into larger databases maintained by Provincial and Federal Governments.

Existing database applications were critically examined at the outset of this project (Table 1). These existing applications either represent indices of mineral prospects (e.g. Ontario's Mineral Deposit Index, Staff of the Geoscience Data Centre, 1990) or were designed to capture data from geographic and geological terranes substantially different from those in Ontario (e.g. British Columbia's Minfile, Jones and McPeek 1991) In B.C. and the Yukon, digital data have been published systematically NTS sheet by NTS sheet[2]. In other jurisdictions, more general literature based data have been published as a thin layer over the whole province or country. Consequently, there have been several *ad hoc* attempts by different field geologists working in industry and in government to develop databases. The "Digital Prospector"[3] was developed for this project to create a relational database to store comprehensive field observations, assay data, literature descriptions and other historical and production data.

Though the immediate objective of the Digital Prospector was to store data collected from the Swayze greenstone belt, the database was structured to store data from various geological and geographical terranes and on a variety of economic mineral products. The structure is extensively modelled on the BC Minfile computer application with some contribution from the second version of the Ontario Mineral Deposit Inventory (MDI) by the Staff of the Geoscience Data Centre (1990).

SCOPE OF THE STUDY

Many mineral prospects have been documented in this report and an effort has been made to track down all published references to each mineral prospect. The government reports researched include:- geological reports, geological maps, mineral resource circulars, mineral deposit circulars, economic series reports, annual reports by the Resident Geologists, information folios and various indices published by the Provincial and Federal Governments. Non government publications that have been searched for information on mineral prospects includes:- technical reports filed with the government for assessment credits, technical reports that have been donated, technical reports filed

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[2] National Topographic System

[3] In this report the term Digital Prospector refers to the computer application and the term Swayze mineral prospect database or Swayze Minfile refers to the data collected from within the Swayze greenstone belt.

with the stock exchanges, company prospectuses, annual reports, and various reports published by the Northern Miner Press. Besides the published reports and assessment work, the files of previous Resident Geologists have also been checked. Researching all these sources formed the literature research carried out on each mineral prospect. Another source of information on mineral prospects that lacked publicly available reports has been various prospectors and geologists who are presently active, or who were active, in the area.

Based on the literature research, the mineral prospects were field checked. During this phase, one of the hardest aspects was the location of the old trenches or drill holes. Typical errors in previously stated locations are in the range of 200 to 400m but were a location is quoted in compilation reports the location error may be up to 3km. Therefore, original field information on the location of a prospect was used where ever possible. An extra effort, sometimes lasting several days, was made to locate the "lost" prospects, i.e., reported significant mineral prospects with imprecise locations. However, in a number of cases, attempts to locate a feature in the bush were unsuccessful. Those prospects physically located on the ground were surveyed with a global positioning system (GPS). The particular unit used in this study was a Garmin 100 survey model and the averaging method was used over 10 minutes. Such positions are regarded to be accurately located to within 50m. In every case the stated precision was less than 10m.

If a prospect is documented in this report, but it is not listed in any publications, the prospect must meet one of the following criteria (modified from Peter Money 1989, unpublished report, OGS):-

1)

Au	>	1	g/t	
Ag	>	35	g/t	
PGE	>	1	g/t	
Cu	>	0.25	%	
Ni	>	0.20	%	
Pb	>	1.00	%	
Zn	>	0.50	%	
Cr	>	5	%	Chromite
Fluorite	>	5	%	
U	>	0.05	%	U_3O_8
Th	>	0.05	%	ThO_2
Sn	>	0.1	%	
W	>	0.2	%	WO_3
REE	>	1	%	Monazite equivalent

or some proportion of two or more commodities that meet the minimum, e.g. 0.5 g/t Au + 18 g/t Ag.

2) The existence of common ore minerals for:- Molybdenum, Beryllium, Lithium, Niobium, and Tantalum.

3)	Fe	>	20	%	
	Ti	>	10	%	TiO2
	Mn	>	4	%	Manganese oxide minerals
	Barite	>	10	%	

over a minimum 3m mining width.

4) The existence of kimberlite for diamonds.

It should be noted that most mineral prospects cited in previous government reports do not meet these criteria. Also in some instances, mineral prospects have been marked on government maps, but are not described nor is there any information on such prospects in the assessment files. In such cases these "prospects" have not been documented in this study.

HISTORY OF THE SWAYZE DIGITAL MINERAL DEPOSIT STUDY

Work on the Western Abitibi Greenstone Belt Mineral Deposit Study commenced in the spring of 1992 with the mandate to collect "in depth" digital data on all the reported mineral prospects within the Swayze greenstone belt. This study built upon the approach of the Black River Matheson study (BRIM, Bath, 1990) and Atikokan study (Schnieders and Dutka, 1985). However, data presented and collected for this project were to be primarily in a digital format and represent a deepening of the data available in the MDI/GED program (Mineral Deposit Inventory/Geological Exploration Database). This project is an extension of an earlier project where Ministry of Northern Development and Mines' geologists (Jim Ireland and Dan Farrow) assisted prospectors in their exploration efforts within the Swayze greenstone belt.

An initial review was made of some previous mineral deposit studies in Ontario, both traditional hard copy and "digital" studies. Of the hard copy reports, those with sketch maps showing access to, and geography/geology of, various mineral prospects with "check" assay results, have been highly commended by several sources in the exploration industry. (e.g. the Atikokan study, Schnieders and Dutka, 1985).

The digital studies examined were the Wawa study (Frey and Stewart, 1992), the BRIM study (Bath, 1990), the MDI project (Staff of the Geoscience Data Centre, 1990), the British Columbia "Minfile" (Jones and McPeek, 1991), and the Timmins - Kirkland Lake Gold Deposit study (Hodgson, 1983). The Wawa study represents a relatively simplistic, flat file, abstraction of the BC Minfile system done from the office. In the BRIM survey a diversity of geological field data were extensively documented under a limited number of headings in a large flat file[4] but was not

[4] A flat file is similar to a spread sheet in that within a single computer file or table, all parameters applicable to a single mineral prospect fit on one line. This can result in very long lines. The alternative is a series of relational files or tables where certain parameters are stored in separate computer files and cross referenced to each other. For example all names can be in

available digitally until in 1992. With respect to the MDI and the Timmins - Kirkland Lake Gold Deposit studies, these applications relied heavily on visible codes that made the output difficult to read as the codes are non standard abbreviations. Secondly, neither the MDI nor the Timmins - Kirkland Lake applications were orientated towards in-depth geological information. It was concluded that the best geological computer package to document field data was the BC Minfile, but this application is a compiled Foxbase® application and does not permit the use of geological unit names and terms in common use outside the Cordillera.

Based on the above review a series of related flat files were initially set–up in dBase® and extensively modelled on the BC Minfile system with some modification from the MDI structure. Using this system, data on 94 mineral prospects were entered in the database during the first field season (1992). Over the early part of the following winter, the structure of this database was reviewed and refined using, 1) the experience gained in the first field season entering data into the database, 2) a second review of the BC Minfile and Ontario MDI applications, and 3) comments by Frigon et al. (1992) on mineral databases across the country. The review was followed by the development of an application that linked all the tables so data could be entered and retrieved systematically in a single database using preset options and built in dictionaries for data verification. It was this version that was released in an interim report (Fumerton *et al.* 1993). In the following winter the application was again revised. This revision was aimed at making the application more versatile, streamlining the files, and making the data types more compatible with the BC Minfile application.

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a separate file or table which permits recording of all the names rather than a restricted number as in a flat file.

Table 1. Summary of data fields in Federal / Provincial mineral deposit databases across Canada in comparison with the Swayze - Digital Prospector and other local databases. Information for this table has been based on a table in an unpublished report prepared for the GSC (Frigon et al. 1992) with various corrections in the BC Minfile & MDI structure. Additional data from Bath (1990), Frey and Stewart (1992), Hodgson (1983), Ken Thorsen, Teck Exploration, and Velma Sterenberg GNWT, written communication 1993 and 1994 respectively.

	Can-Min.	Min-Sys.	B.C. —	Ont. MDI	Que. —	Nfld. —	N.B. —	Alb. —	Sask. —	Swayze —	BRIM —	Wawa —	Abitibi Au	Teck —	NWT —
IDENTIFICATION															
Identifier	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sub unit		✓			✓										
Entity Code	✓			✓											
Name	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Year name used										✓					
Zone													✓		
Proportion of zone													✓		
CanMin #	✓		✓		✓										✓
NMI #		✓	✓	✓	✓	✓	✓		✓	✓	✓				✓
LOCATION															
NTS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	
NTS Sheet			✓												✓
Lat/Long	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓		✓
UTM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Elevation			✓												✓
Jurisdiction	✓	✓		✓	✓					✓	✓				
– Claim map										✓					
Township/Area		✓		✓						✓	✓	✓		✓	✓
Map Point Desc				✓			✓				✓	✓			
– Precision			✓	✓	✓		✓						✓		✓
– Scale	✓			✓											
Ground Descrip										✓					✓
– Loca Meth										✓					✓
– Access								✓		✓					✓
Mining Camp			✓	✓	✓									✓	
Resident Geologist				✓											
Physiography			✓												✓
Land Status					✓	✓	✓								
Aboriginal Land Claim															✓

Table 1. Mineral deposit database comparison continued

	Can-Min	Min-Sys	B.C.	Ont. MDI	Que.	Nfld.	N.B.	Alb.	Sask.	Swayze	BRIM	Wawa	Abitibi Au	Teck	NWT
GEOLOGICAL SETTING		✓	✓	✓	✓	✓	✓	✓		✓					
Era			✓							✓					✓
Period/Epoch	✓	✓		✓	✓	✓				✓					✓
Province										✓					
– Subprovince/ Super Group			✓	✓	✓	✓	✓			✓					✓
– Terrane										✓					
– Group/Assemblage			✓	✓						✓	✓				✓
– Subgroup										✓					✓
– Formation			✓	✓		✓	✓	✓		✓					✓
– Member			✓	✓	✓					✓			✓		
Rock Type			✓	✓			✓			✓			✓		
– Group Code			✓	✓						✓			✓		
– Name		✓	✓	✓	✓	✓				✓	✓	✓	✓		✓
– Modifier				✓						✓					✓
– Grain size													✓		
– Form													✓		
– Relation to Min				✓	✓					✓			✓		
– Abundance										✓			✓		
Metamorphic Type			✓		✓					✓					✓
– Grade			✓		✓					✓		✓			✓
– Relationship			✓							✓					
Geol Description			✓		✓				✓	✓	✓	✓		✓	✓
Structural Features										✓		✓	✓		✓
– Description										✓					✓
Alteration			✓		✓		✓			✓	✓	✓			✓
– Type			✓							✓			✓		✓
– Habit										✓					
– Intensity										✓					

Table 1. Mineral deposit database comparison continued

	Can-Min	Min-Sys	B.C.	Ont. MDI	Que.	Nfld.	N.B.	Alb.	Sask.	Swayze	BRIM	Wawa	Abitibi Au	Teck	NWT
DEPOSIT DETAILS	✓		✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓
Status														✓	
Merits				✓											
Adjacent Deposits			✓		✓			✓		✓			✓		
Dimensions			✓		✓					✓					✓
Strike/Dip			✓		✓					✓			✓		✓
Shape			✓		✓					✓		✓	✓		✓
Character			✓		✓					✓					✓
Classification	✓	✓	✓		✓	✓	✓			✓					
Commodities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
– Qualifier				✓	✓					✓			✓		
– Group				✓						✓					
– Grades			✓							✓			✓		✓
– Event															✓
Mineralogy			✓	✓	✓		✓	✓		✓	✓	✓		✓	✓
– Class			✓				✓						✓		
– Abundance															✓
– Gangue															✓
Dated Age			✓							✓					✓
– Material			✓							✓					✓
– Method			✓							✓					✓
Description			✓		✓	✓				✓	✓	✓		✓	✓
PRODUCTION / RESERVES															
Reserves			✓	✓	✓		✓			✓	✓	✓	✓		✓
– Category			✓	✓						✓					✓
– Commodities			✓							✓					✓
– Grades			✓							✓					✓
Annual Ore Mined			✓		✓	✓				✓					✓
– Commodities Produced			✓							✓					
– Other Credits										✓					
Mining Method			✓	✓	✓					✓					
– Depth				✓						✓					
Mill Capacity				✓			✓								
1st Year Production		✓					✓								
Last Year Production		✓								✓	✓	✓			✓
Production Comments			✓		✓										

Table 1. Mineral deposit database comparison continued

	Can-Min	Min-Sys	B.C.	Ont. MDI	Que.	Nfld.	N.B.	Alb.	Sask.	Swayze	BRIM	Wawa	Abitibi Au	Teck	NWT
WORK HISTORY / OWNERS															
Discovery Date		✓			✓	✓	✓						✓		
– Method	✓	✓					✓						✓		
Exploration History		✓			✓	✓			✓	✓	✓	✓		✓	
– Amount (Assessment File Breakdown)			✓							✓				✓	✓
Exploration Intensity													✓		
Latest Owners		✓			✓	✓			✓	✓				✓	
REFERENCES															
Literature	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		
Map	✓		✓	✓	✓	✓					✓		✓		
Assessment			✓	✓	✓				✓	✓	✓	✓	✓	✓	✓
ADMINISTRATION															
Date Coded	✓		✓	✓	✓	✓			✓	✓				✓	✓
– Revised & Geo	✓		✓	✓	✓	✓			✓	✓		✓		✓	✓
– Field Checked			✓							✓				✓	✓
Field Visit Comments										✓		✓			
Assays										✓	✓		✓		✓
Geochemistry										✓					
Drill Core Library										✓		✓			

STRUCTURE OF THE DIGITAL PROSPECTOR

The Digital Prospector application has a database selection screen, six main screens with additional "pull down" data entry screens, a print options screen, and a query list screen. The database selection screen is used to select which database is required. Each database can be distinct with different customized dictionaries and prompts. The main screens permit data to be entered on the location, access, exploration history, and geology of a prospect. If data are available on reserves, production, and some other features, they can also be entered via the "pull down" screens. To print out the information collected on any particular prospect, there are several options to print various types of reports. Any selected report can be accessed via the print control screen, then viewed on the screen, sent to the printer, or written in ASCII onto a magnetic file. Finally, an index screen lists a number of customized queries which can be executed from the application. Additional customized queries can be added to the list by the user.

LAYOUT OF SCREENS

There are a multitude data entry / control screens in the application but only six pertain to every mineral prospect. Another eleven data entry screens are only required for the input of specific peripheral data. Besides these data entry screens there are two menu bars and several control screens. One of the menus controls the data entry screens and the second controls the underlying records in the database, or in other words, to control from which prospect the data is displayed.

Database Selection

After launching the application a screen appears which is used to select which disk drive and in what directory the required database is located in. Options can be made by clicking with the mouse or using the "tab" and "enter" keys. This screen is illustrated in Figure 2.

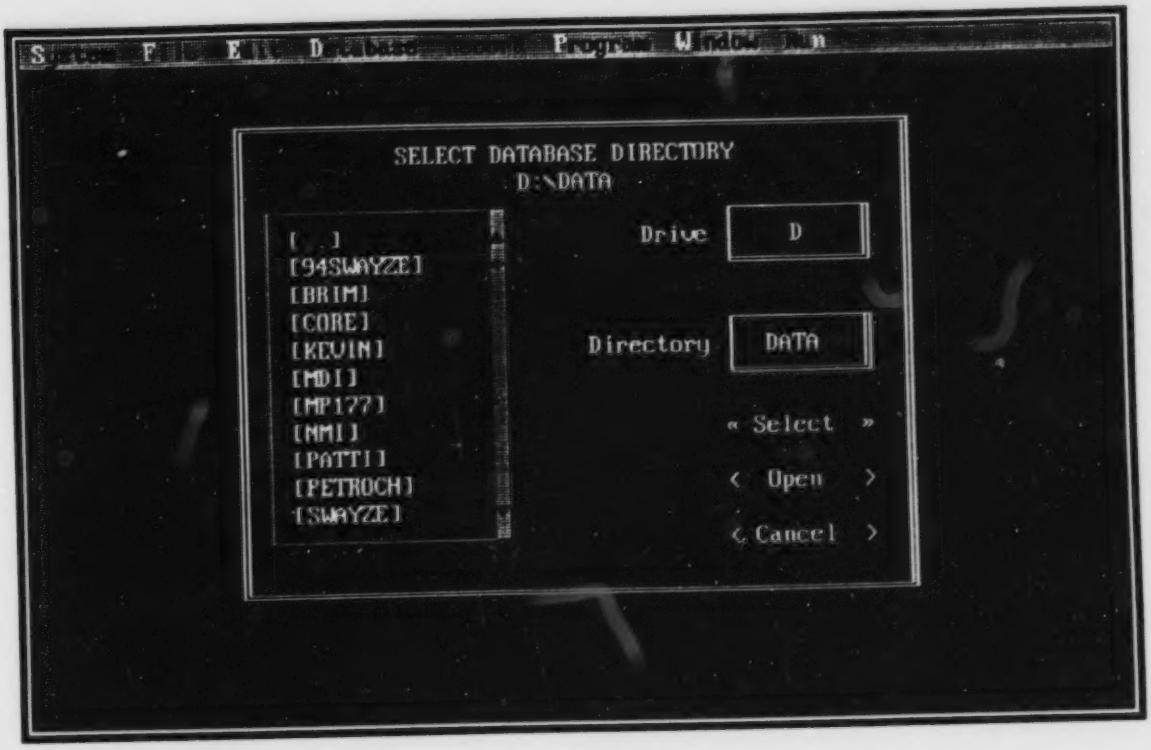

Figure 2 Database selection screen (DOS version)

Twenty-six relational tables for a total of fifty-nine files are required in a selected directory in order to run the application. These tables consist of data tables, dictionaries, temporary data tables, tables which store lists of customized queries, and several tables that store variable preferences set by the user. Some tables are updated by the application each time it is started to store the results of totalling all production figures. Only the essential FoxPro® database files are listed below. These files have three possible extensions, *.CDX for indices, *.DBF for database file, and *.FPT for memo fields. There is always a file with a *.DBF extension but files having the other two extensions may or may not be present (see Appendix D).

Database Table (DBF files)

GEOLOGICAL FILES
ALTERATN.DBF
ASSAYS.DBF
ASSES_NO.DBF
ASSESSMT.DBF
CLASSIFN.DBF
COMMODIT.DBF
GEOCHRON.DBF
MINERALS.DBF

MINFILE.DBF
NAME.DBF
PRODUCT.DBF
REF_SOUR.DBF
REFS.DBF
RESERVES.DBF
ROCKS.DBF
SKETCH.DBF [5]
STRUCTUR.DBF
VISITS.DBF

TEMPORARY GEOLOGICAL FILES
PTEMP.DBF
PTOTALS.DBF [6]

DICTIONARIES FILES
DICT_ROC.DBF
PROMFILE.DBF

APPLICATION FILES
MINRSRC.DBF
MINUSER.DBF
ONERROR.DBF
REPLIST.DBF

NON APPLICATION FILES
SWAZWRA.DBF [7]

The master geological table is MINFILE.DBF and is linked to the other tables with a common field called LOCAL_NO. The two exceptions to this are ASSESSMT.DBF and REFS.DBF that are linked to the master table through intermediary files ASSES_NO.DBF and REF_SOUR.DBF respectively. Detailed structural charts of the individual data tables are given in Appendix C.

After the database has been selected, an other general welcoming screen appears together with the menu for the application.

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[5] This table can only be populated using the Windows version of FoxPro

[6] This file is updated every time the application is started after new data have been entered through the annual production pull down screen.

[7] Whole rock analyses in a table structure based on the Ontario Geological Survey's Petroch database. This database is not part of the application but records additional information collected during the study.

Menu Bars

The upper menu bar controls the data entry screens and the application. It consists of the following elements:-

GEOLOGY	SYSTEM	FILE	EDIT	DATABASE*	RECORD	INDEXES	WINDOW
MAIN	FOXPRO	PRINTER SET	UNDO	ORDER	ADD	INDEXES ...	MOVE
RESERVES ...	HELP	PRINTER	REDO	REINDEX	EDIT		SIZE
PRODUCTION ...	CALCULATOR	QUIT	CUT	COMPRESS	SAVE		ZOOM
VISITS ...	CALENDAR		COPY		OPPS!		ZOOM
ASSAYS ...	ENVIRONMENT ...		PASTE		TOP		CYCLE
REFERENCES ...			CLEAR		PRIOR		
ASSESSMENT ...			SELECT ALL		NEXT		
SKETCHES ...			GOTO LINE ...		BOTTOM		
GEOCHRONOLOGY ...			FIND ...		LIST		
DICTIONARIES ...			FIND AGAIN		CLOSE		
PRINT ...			REPLACE ...		DELETE*		
			REPLACE ALL ...				
			PREFERENCES ...				

* Feature not implemented. Due to time and that the mandate of this project was to collect data there are a number of features and application development concepts which were not completed and there is no undertaking to complete these features..

The lower menu bar provides direct access with the mouse to the same options as under the "RECORDS" option of the upper menu and permits the navigation through the database. In other words this menu bar controls which mineral prospect or data in the database is displayed on the screen.

Main Data Entry Screens

The main data entry / viewing screens consist of a set of six screens that can be scrolled in the edit mode. The type of data contained in the screens is as follows and the layout of the screens is shown in Figures 3 to 8:

Main Screen #1

a) Name of Prospect
b) Identifying Numbers
c) Ownership
d) Status of the mineralization
e) Potential economic commodities

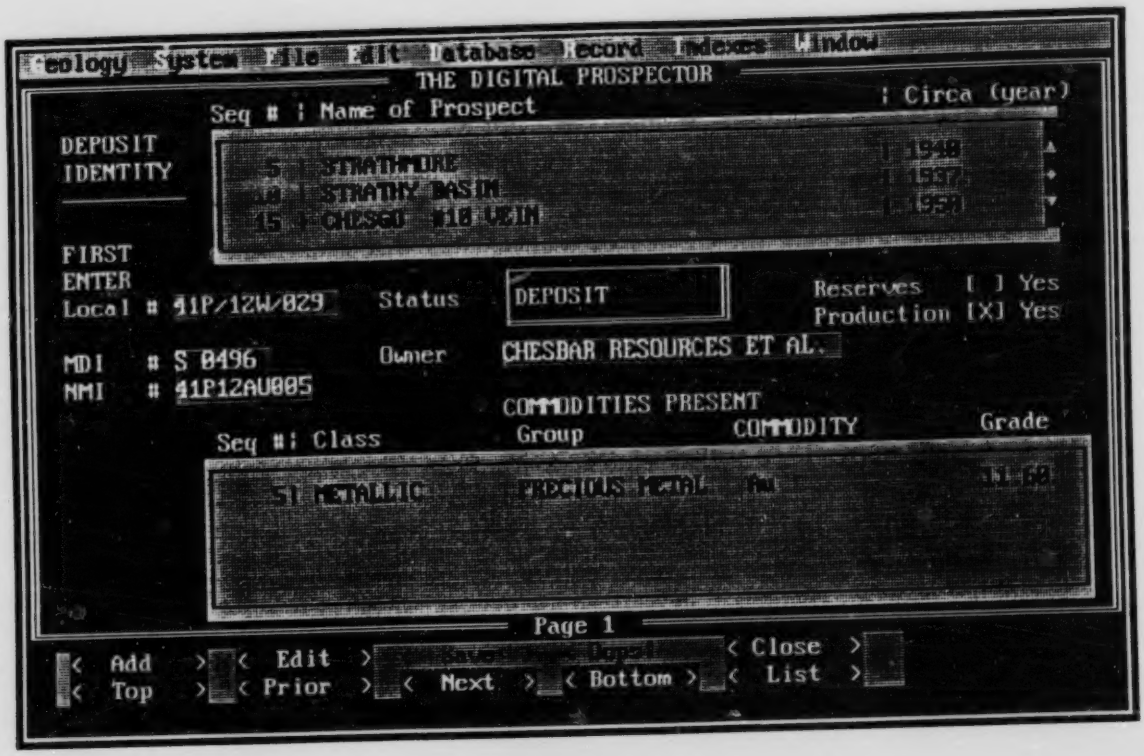

Figure 3 **First main data entry screen (DOS version).**

Main Screen #2

a) Location
b) Co-ordinates
c) Access

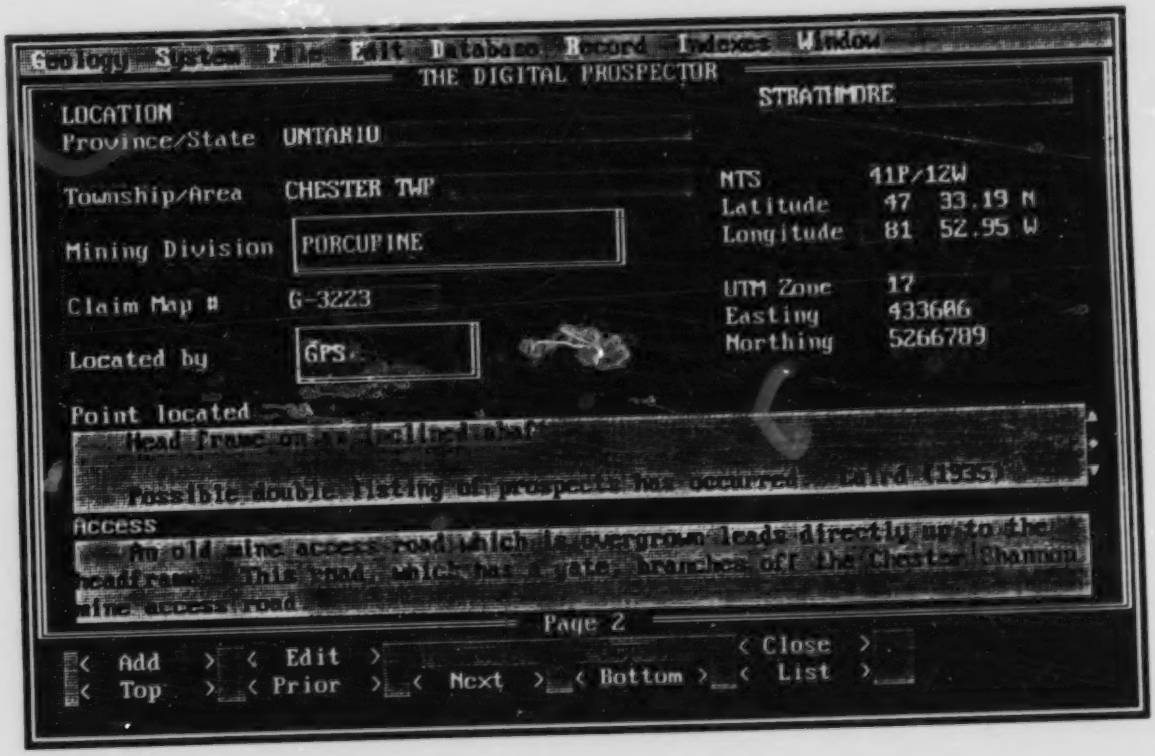

Figure 4 Second main data entry screen (DOS version).

Main Screen #3

a) Exploration history
b) Formal geological setting
c) Metamorphic setting

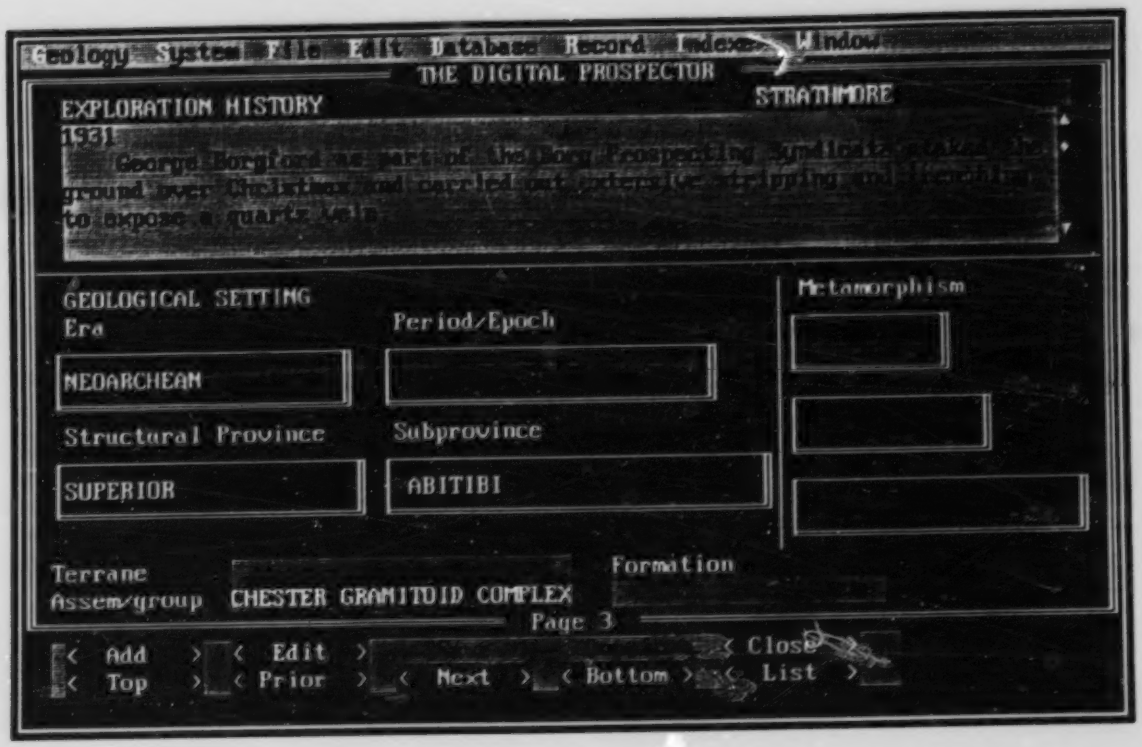

Figure 5 Third main data entry screen (DOS version).

Main Screen #4

a) Lithology
b) Mineralogy
c) Alteration

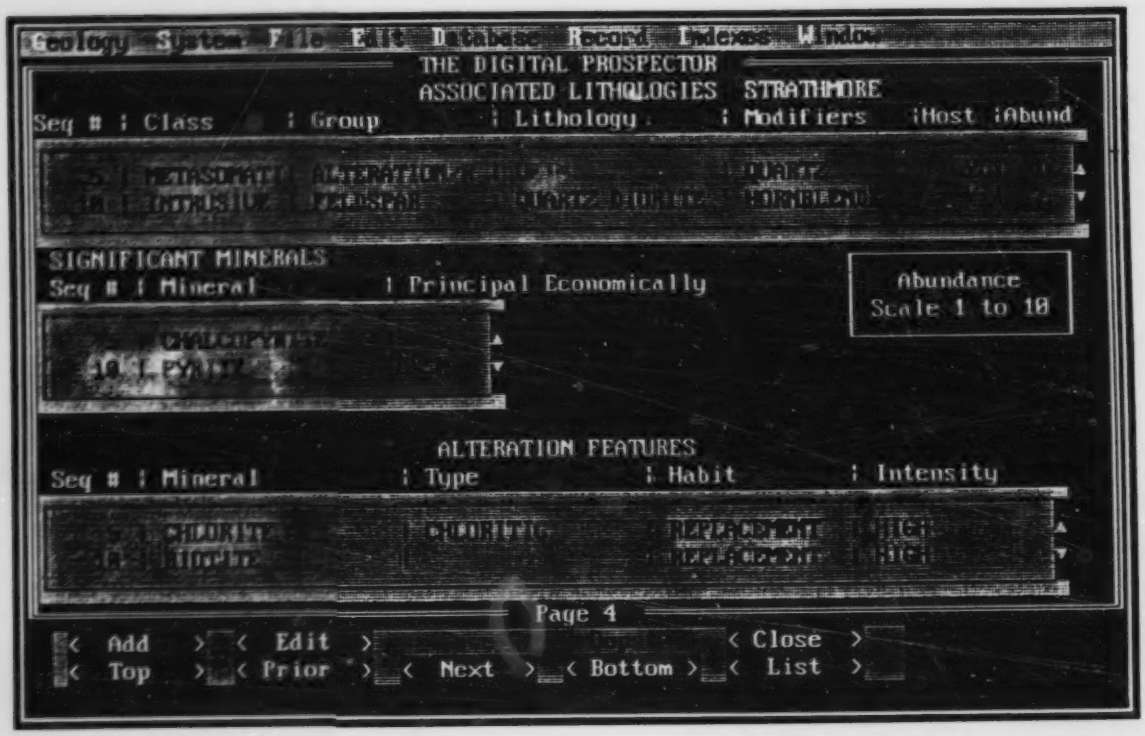

Figure 6 Forth main data entry screen (DOS version).

Main Screen #5

a) Structural features related to the prospect
b) Character of prospect
c) Geological description
d) Structural description

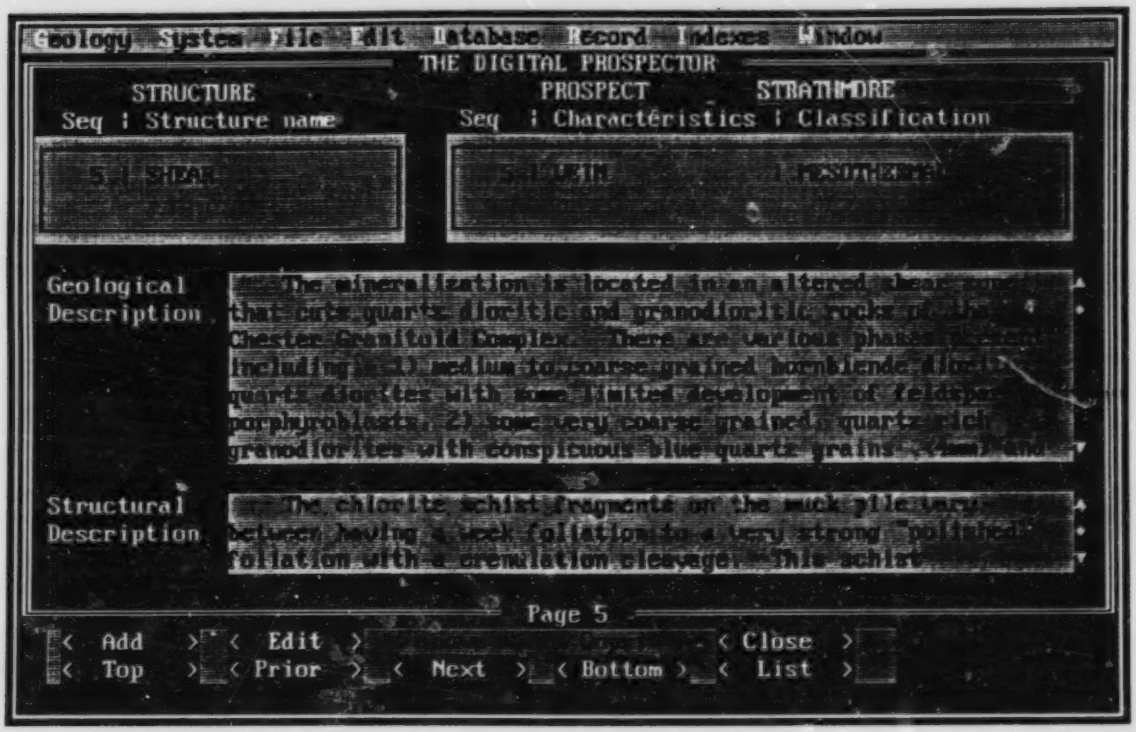

Figure 7 Fifth main data entry screen (DOS version).

Main Screen #6

a) Mineralization description
b) Size
c) Orientation
d) Data entry administration

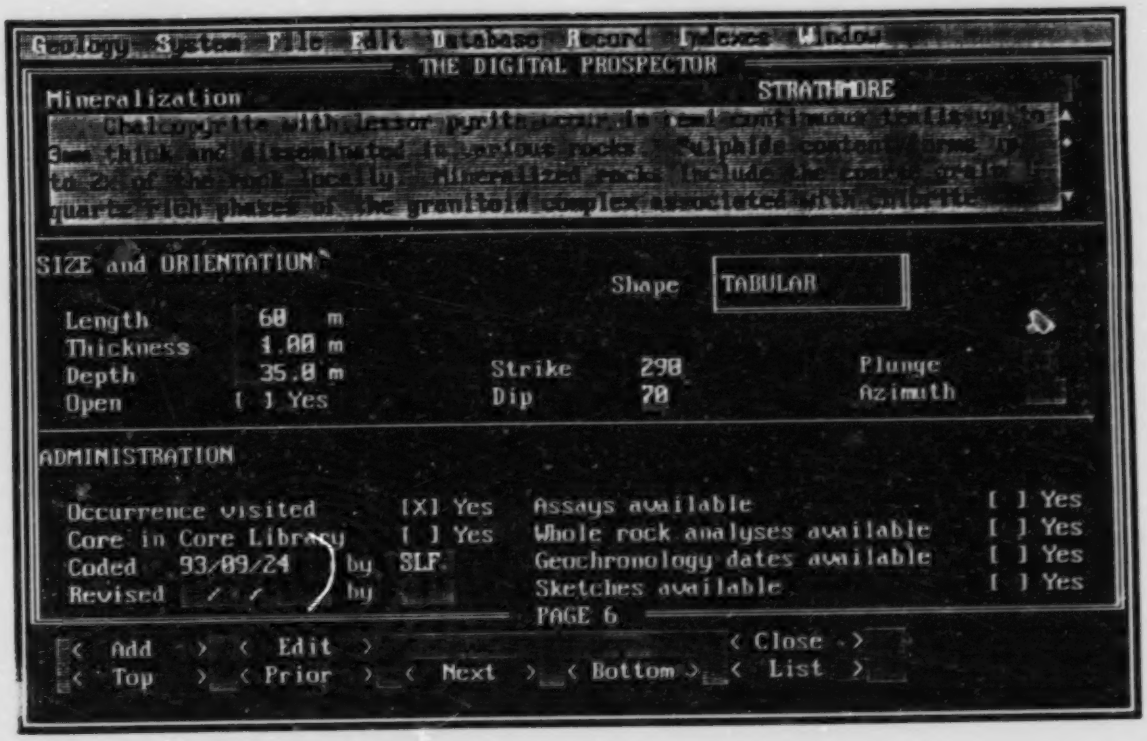

Figure 8 Sixth main data entry screen (DOS version).

Pull Down Data Entry Screens

The screens that are accessed via the pull down menu under the "geology option" permit the entry of data that are not universally available for all mineral prospects. These are illustrated in Figures 9 to 19 and include the following:-

Reserves Screen

This screen permits the entry of results of any reserve or resource calculation including:-

a) Year calculated
b) Tonnes
c) Commodities and grades
d) Category of calculation
e) References & Comments

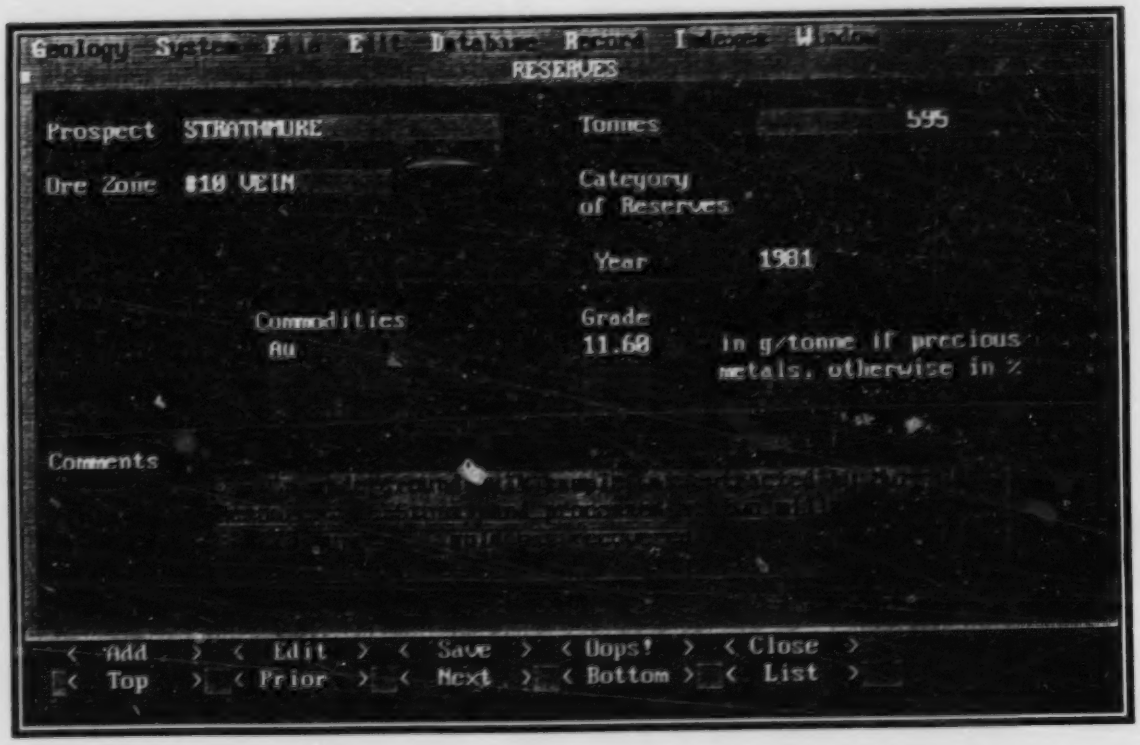

Figure 9 **Pull down screen to enter data on reserve or resource calculations (DOS version).**

Production Screen

This screen permits the entry of the annual production figures on a mine including:-

a) Year
b) Tonnes
c) Mining Method
d) Commodities and amounts
e) Mill capacity

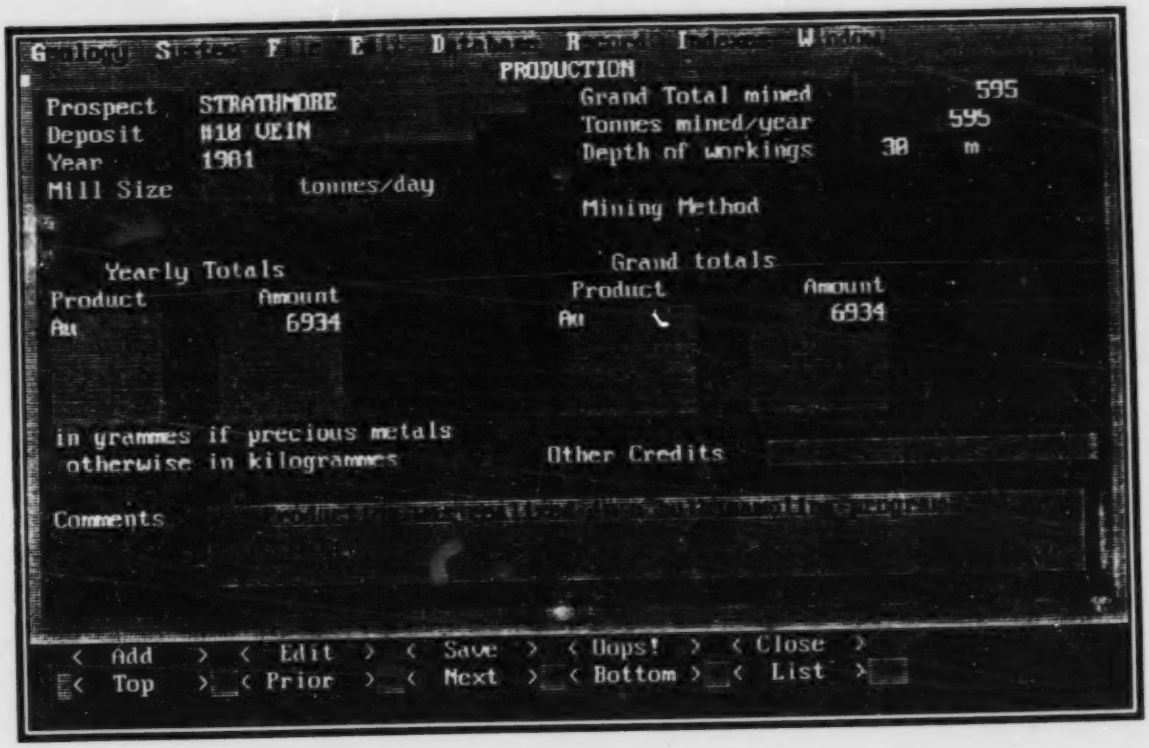

Figure 10 Pull down screen to enter data on annual production from a deposit (DOS version).

Visit Screen

This screen permits the entry of various comments arising out of a property visit including:-

a) Geologist
B) Date
c) Comments

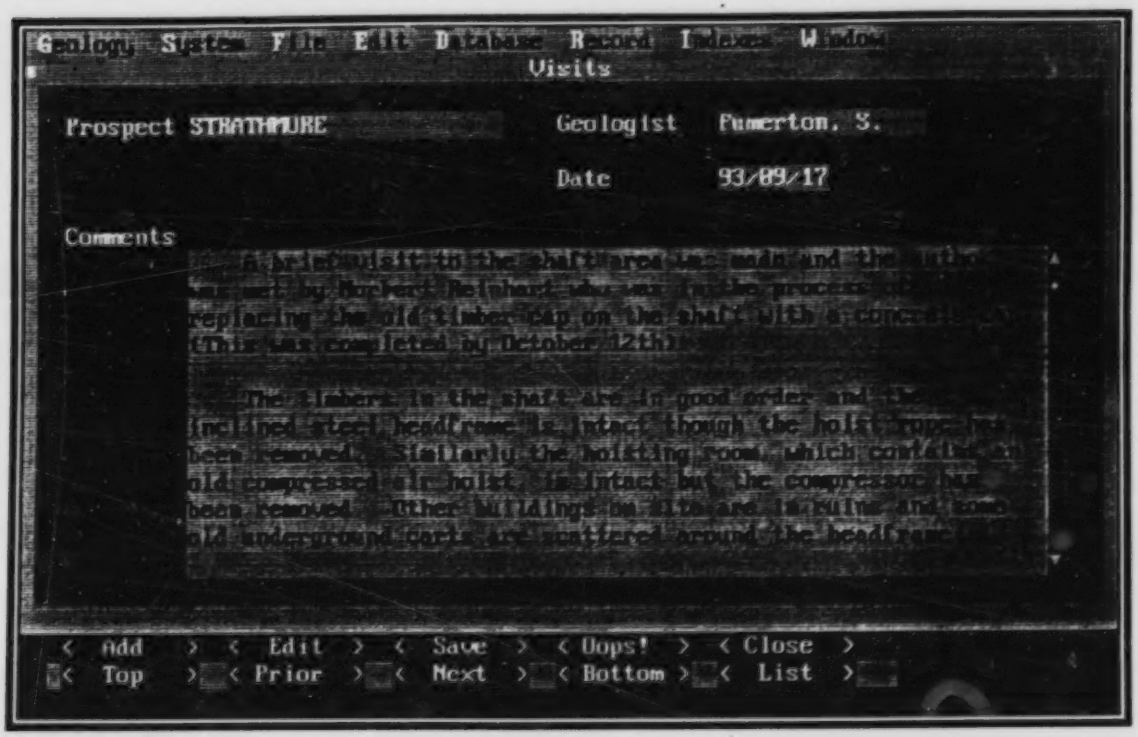

Figure 11 Pull down data entry screen to enter comments and general observations following a property visit (DOS version).

Assay Screen

This screen permits the entry of details on any samples collected for assaying including:-

a) Co-ordinates
b) Sample number
c) Sample type
d) Geological Description
e) Geologist
f) Year
g) Laboratory
h) Results

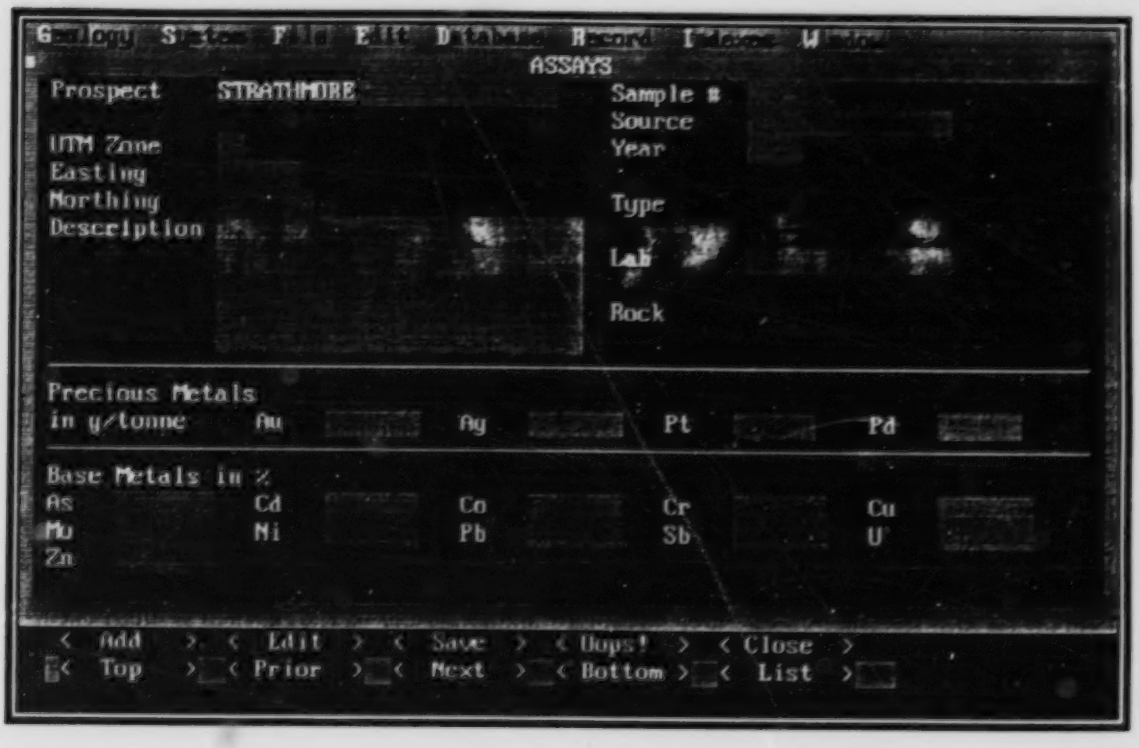

Figure 12 Pull down screen to enter assay results for samples collected on a property visit (DOS version).

Reference Screens

These screens permit entry of a coded abbreviation for published reference that specifically mentions the mineral prospect then a screen to enter full details on references.

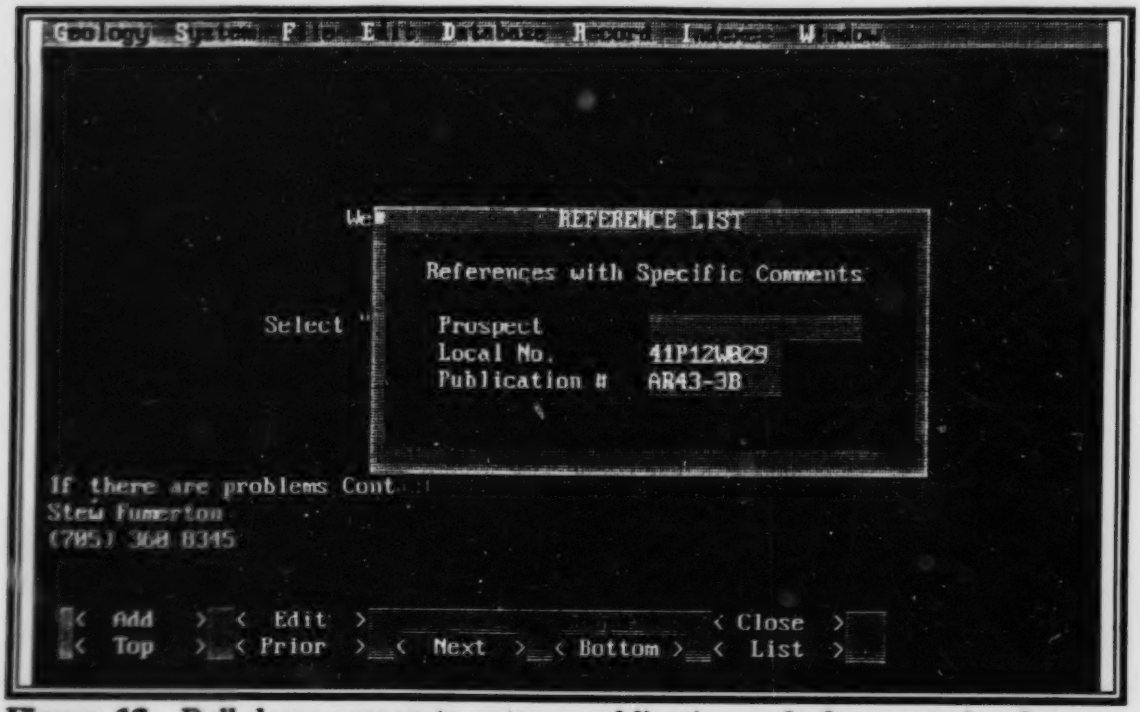

Figure 13 Pull down screen to enter a publication code for quoted reference.

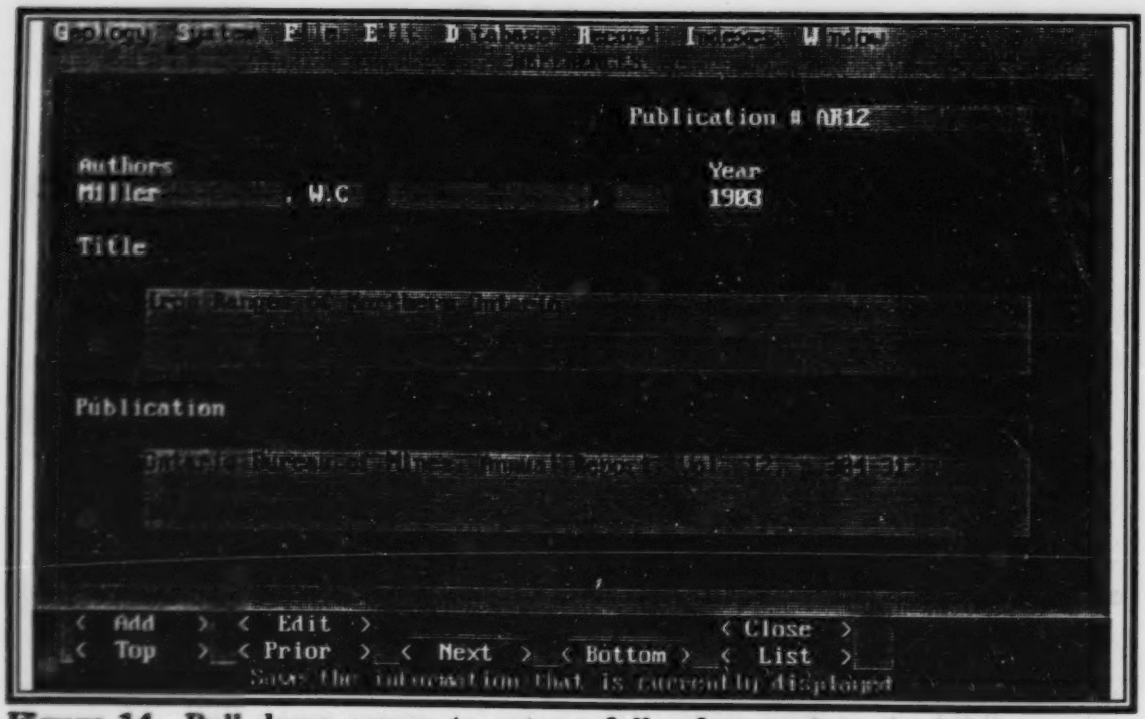

Figure 14 Pull down screen to enter a full reference into the bibliography.

Assessment Screen #1

This screen permits the entry of file numbers for assessment files that have reported exploration results covering the mineral prospect including:-

a) Specific assessment file number that includes work that covers the area of the mineralization

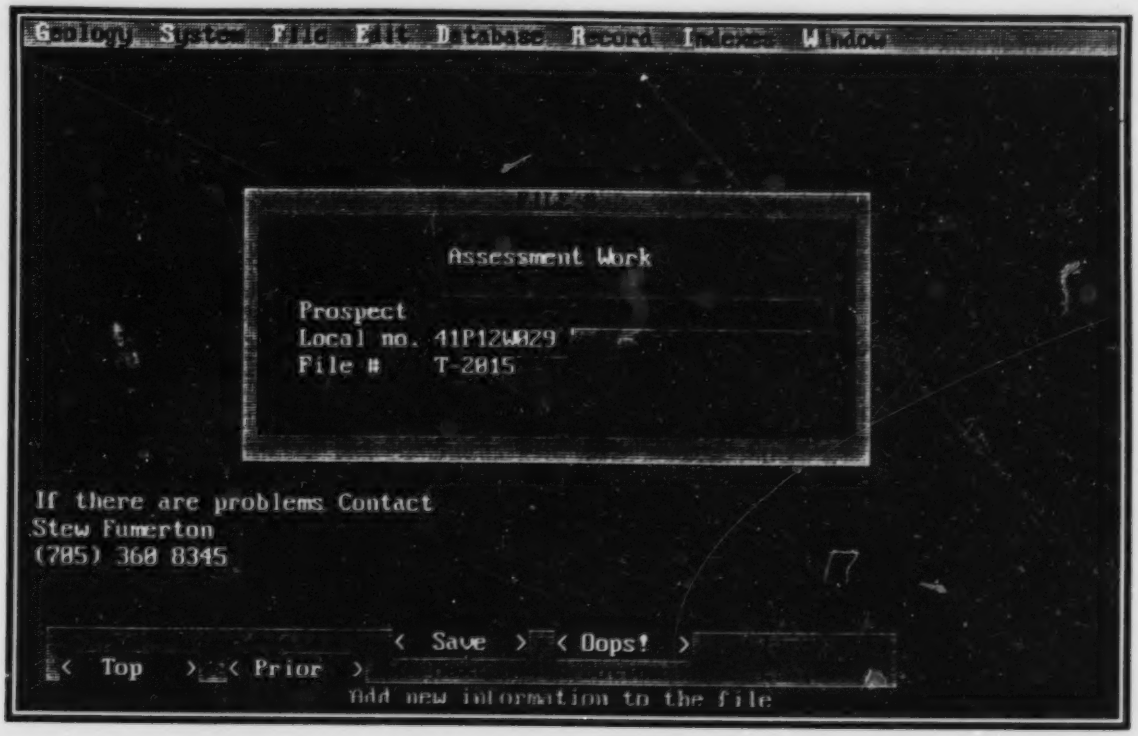

Figure 15 Pull down screen to enter assessment files that pertain to the mineral prospect (DOS version).

Assessment Screen #2

This screen permits the entry of details on the type of assessment work performed and the amount including:-

a) File Number
b) Company
c) Year
d) Type of work and amounts

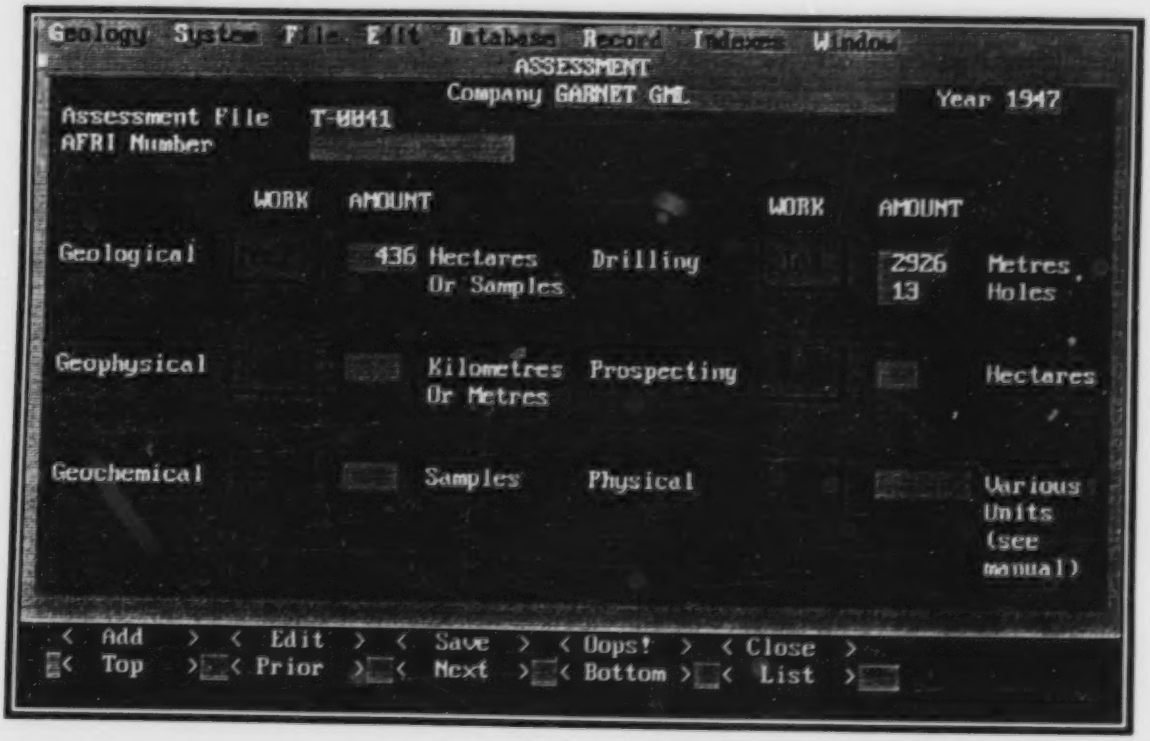

Figure 16 Pull down screen to enter details on the contents of an assessment file (DOS version).

Map or Sketch Screen

Presently this information is still kept on paper. This screen was included for potential further development of the application on the Windows or Mac computer platform where it will be possible to add graphic data using the clip board. However, transferring and debugging the Windows version of the application has not been completed and the Ontario Geological Survey has not undertaken any commitment to complete such application development.

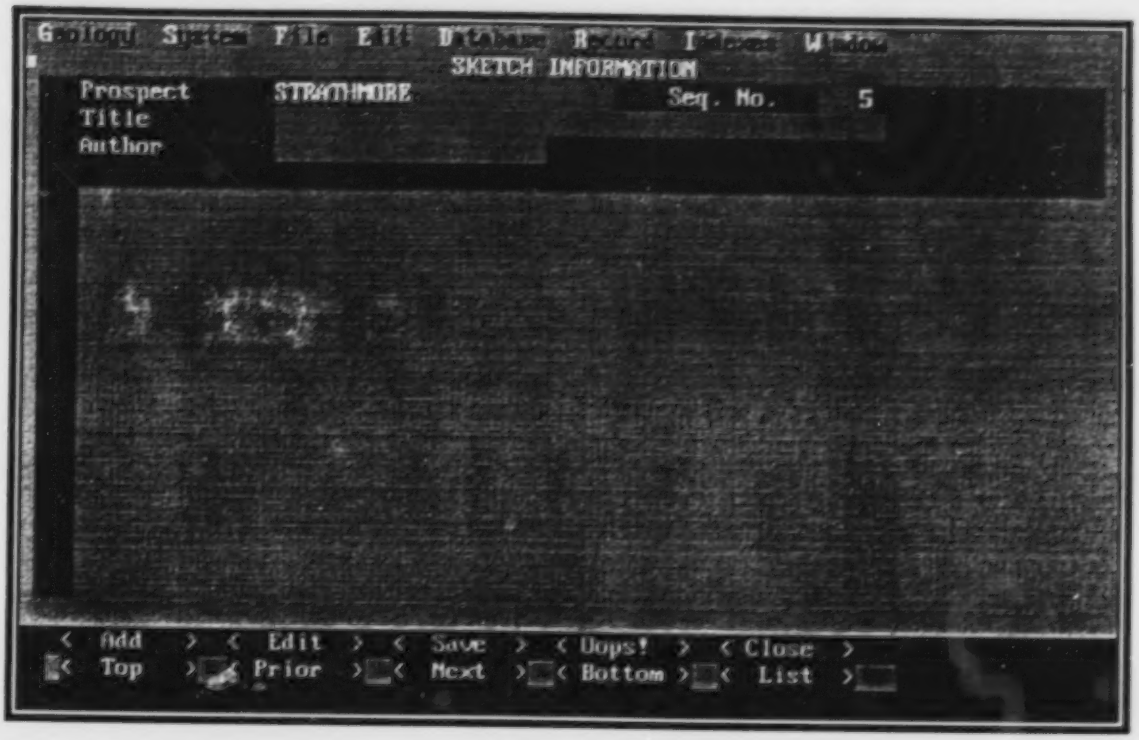

Figure 17 **Pull down screen for maps or sketches. Data may potentially be added under the Windows or Mac graphic user interface.**

Geochronology Screen

This screen permits geochronological data pertaining to a prospect to be entered.

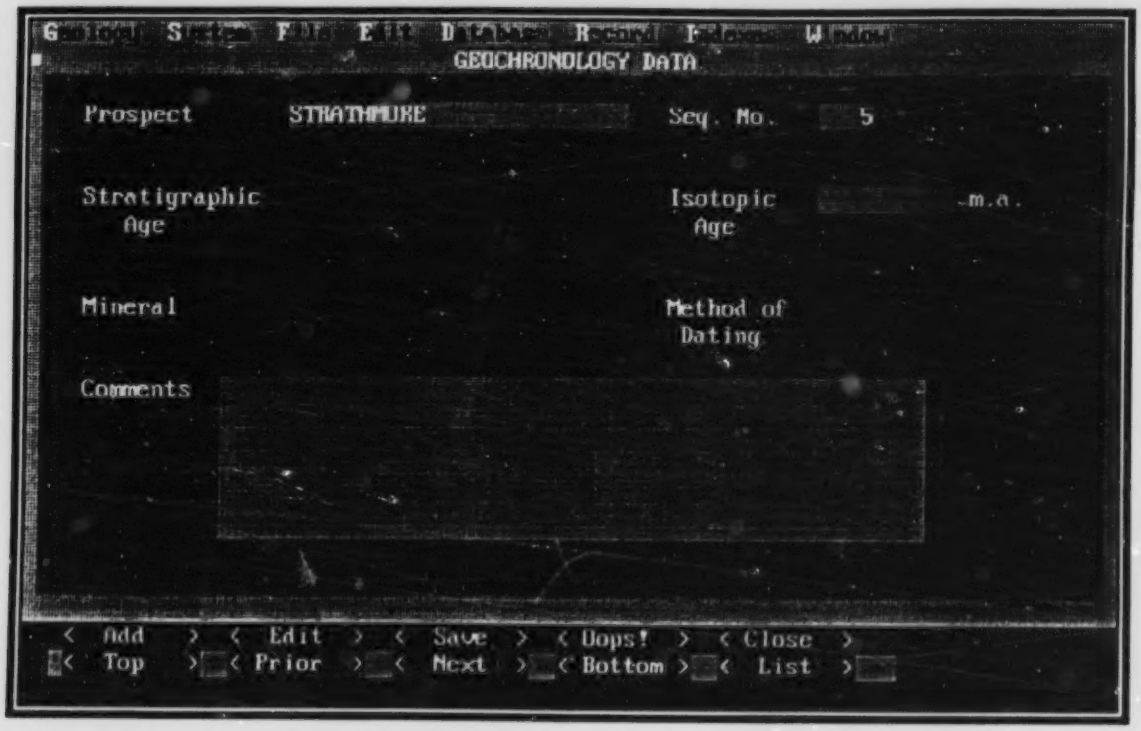

Figure 18 Pull down screen to enter geochronological data (DOS version).

A total of 163 fields of geological data can be entered with these screens. This probably represents the upper limit that could be maintained and should provide a comprehensive description of potential and economic mineral prospects. Full details on all the fields and the constraints on data entry are given in Appendix A.

REPORTS

Generally the format of the reports follows that of the data entry screens depending on the contents of the database for a particular mineral prospect. That is, if no data have been entered in certain fields, those sections in the report will not be printed. Reports may be printed selectively and, in some cases, in greater detail from certain specific parts of the pull down menu. For example there is a greater selection of reports available on references or production associated with the reference screens and production screens respectively. Alternatively the standard reports can be printed from the "PRINT" selection of the "GEOLOGY" menu.

The reports from the PRINT option under the GEOLOGY option on the main menu are as follows:-

BASIC REPORT	This option will print out all data fields in the six main screens provided there is information in the fields. The general order and format of the report roughly follow that of the screens. Because of the fixed fields on identification, location and regional geological setting, the minimum length of a report is two pages. If a lot of information has been documented the basic report can be up to twenty pages long.
EXTENDED REPORT	This option will print the BASIC REPORT for the prospect displayed on the main screen *plus* all reserve calculation reports if any, total production figures if any, a brief list of published references by author specific to the mineral prospect if any, a list of assessment files that report work in the area if any, general comments by visiting geologists if any, and assay results if any.
RESERVES REPORT	This option will list the basic data on all formal reserve calculations performed on the deposit displayed in the main screen. More informal calculations may also be included depending on the circumstances. This same report can also be initiated under the RESERVES option under the GEOLOGY option of the main menu.
ANNUAL PRODUCTION	This option will print out details of the annual production at the mine displayed in the main screen year by year. This same report may also be initiated under the PRODUCTION option under the GEOLOGY option of the main menu.
TOTAL PRODUCTION	This option will print out a summary of the total production figures on the mine displayed in the main screen including the tonnes mined, the commodities produced and the amount produced. This same report may also be initiated under the PRODUCTION option under the GEOLOGY option of the main menu.
VISITS REPORT	This option will print out all the general comments by geologists who have visited the prospect displayed in the main screen. This same report may also be initiated under the VISITS option under the GEOLOGY option of the main menu.

ASSAY REPORT	This option will give full details on all the samples submitted for assay from the prospect displayed in the main screen. This same report can also be initiated under the ASSAYS option under the GEOLOGY option of the main menu.
ASSESSMENT BREAKDOWN	This option will print out a two-stage report. The first part will total all the various types of assessment work that has been performed in the area of the mineral prospect displayed on the main screen. The second part will print out the breakdown of this work giving the year, type and amount of work plus the company who performed the work.
REFERENCES	This option will print out a two-stage report. The first stage will be a list of all published references, in full, that specifically mention the mineral prospect displayed on the main screen. The second stage will list the assessment files that report work in the area of the mineral prospect with the year and company or individual's name that filed the work.

Additional assessment reports are available under the ASSESSMENT option under the GEOLOGY option on the main menu and are as follows:-

DATA TOTAL	This option will print the first stage of the ASSESSMENT BREAKDOWN option listed above.
DATA BREAKDOWN	This option will print the second stage of the ASSESSMENT BREAKDOWN option listed above.

Additional reference reports are available under the REFERENCES option under the GEOLOGY option on the main menu and are as follows:-

FULL BIBLIOGRAPHY	This option will print out the full reference list for every published reference cited in the study.
SPECIFIC REFERENCES	This option will print the full reference for every publication that specifically mentions the mineral prospect being documented.
BRIEF LISTING	This option will print the author's names plus year of publication for every publication that specifically mentions the mineral prospect being documented.

Once the type of report has been selected, a print manager screen appears which permits the report to be saved as an ASCII file, displayed on the screen, recalled from an ASCII file, or printed (Figure 19).

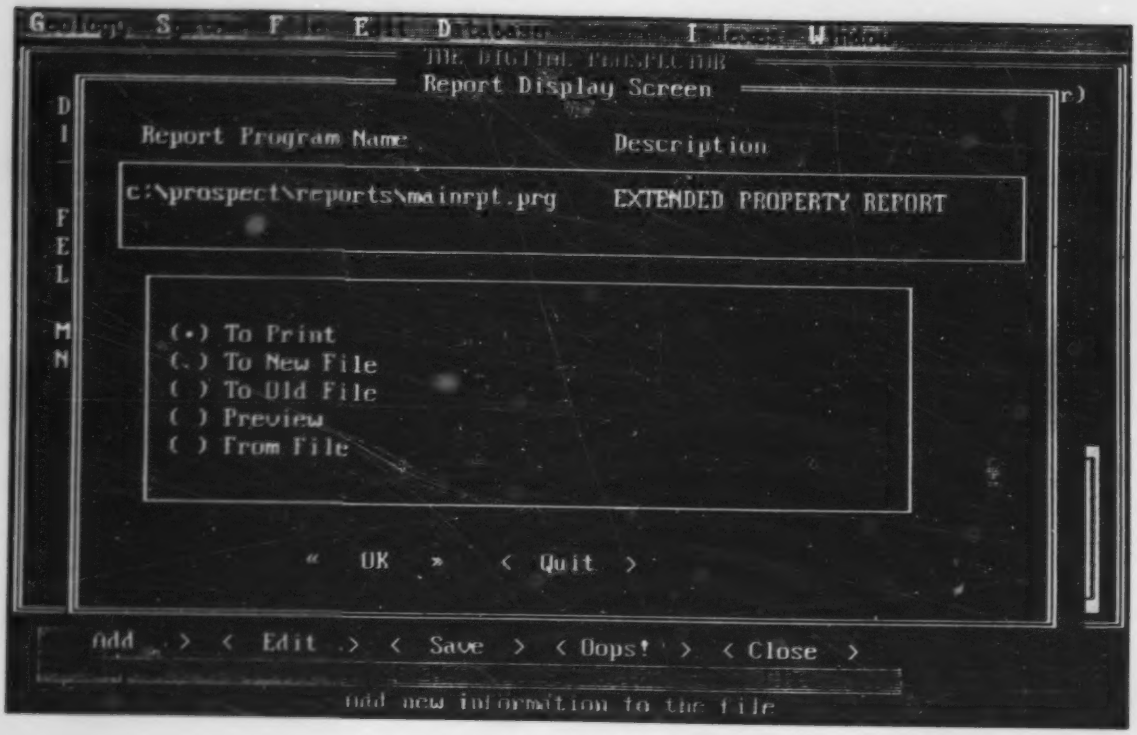

Figure 19 Print manager screen which permits selection of the desired output medium.

QUERIES

Customised queries of the database can be executed from the application. This is done by generating a query in the "Relational Queries By Example" routines of the underlying FoxPro software then adding the query to the REPTLIST table. This table contains a name for the query together with the file name, directory path indicating where the query file is stored. To execute a query, the INDEXES option must be selected from the main menu then a screen will appear listing all the customized queries. This screen is illustrated in Figure 20.

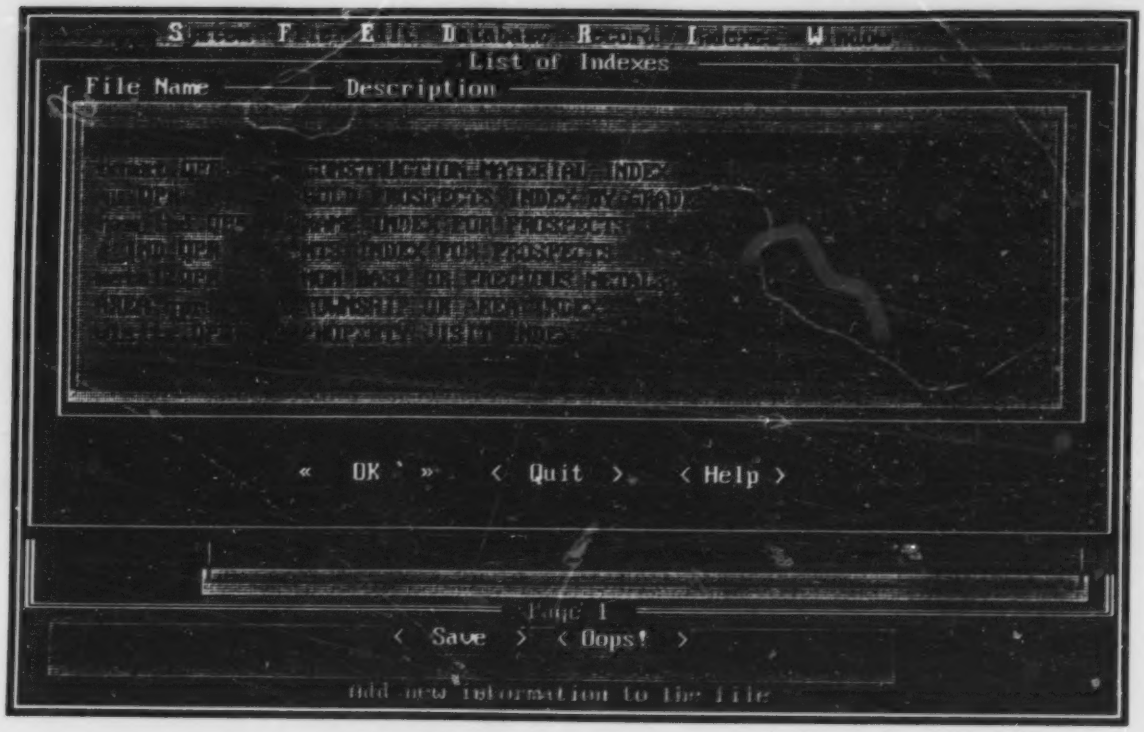

Figure 20 **Screen listing customized queries which can be executed from the application.**

INSTALLING THE DIGITAL PROSPECTOR

The step by step procedure to install the application is documented in Appendix C with some problems encountered so far. The floppy disks at the back of this report include the files necessary to run the application and the data gathered so far in the Swayze greenstone belt.

HARDWARE REQUIREMENTS

The minimum hardware requirements to run the DOS version of the application are an IBM compatible machine with 1) an 80386SX processor or higher 2) at least 2mb of random access memory (RAM) and 3) sufficient free hard disk space to hold the application that is approximately 1.6mb in size and the data that are approximately 4mb in size. However, because of the number of screens used in the application it is recommended that a "486" machine or better be used together with more memory. These requirements are greater than the stated minimum for the FoxPro software because the extended version of the software is used. If the application is to be converted to The Windows version or the DOS version of the application is

run from the Windows version of Foxpro, the hardware requirements are much more demanding. The hardware required is at least 8mb of memory and a "fast" 486 with a local video bus for satisfactory performance..

SOFTWARE REQUIREMENTS

The application has been developed using the DOS version of FoxPro 2.5a, 2.5b and 2.6® relational database software manufactured by Microsoft Corporation. This software is required to run the application. Due to various problems the application does not function on a particular version of the software, i.e. the initial FoxPro 2.5 version.

The application can be converted to run on the Windows[8] 2.5a, 25b, 2.6 and MacIntosh version of the Foxpro software but the screens and their colours are changed by default. It should be noted that depending on various hardware configurations some additional changes may be required to run the application under Windows. The Windows version of the application used together with the DOS version in Timmins during this study will not be released as part of this report.

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During the past three years it has been of considerable assistance and pleasure to be part of an *ad hoc* team working in the Swayze greenstone belt. This team has consisted of Jeff Harris, Kevin Heather and Otto von Breeman from the Geological Survey of Canada, Marc Bernier from the Ontario Geological Survey, plus the staff at the Timmins offices of Falconbridge Exploration, and Noranda Exploration. The team also included those who very ably performed the laborious data entry – field work and consisted of Marc Leroux, Melanie Nuss, Patty Nakai – Lajoie and especially Bill Yee.

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[8] Presently a run time error is generated with the latest version of the application when compiled under the Windows version of Foxpro which has not been corrected. However, the application compiled under the DOS version does work under the windows.

by no means least, all the many geologists and prospectors in the exploration industry who shared their time in discussion and gave copies of reports and maps are to be most sincerely thanked.

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DIGITAL PROSPECTOR

APPENDIX
A

DATA FIELD DESCRIPTIONS
and
OPTION LISTS

DATA FIELD DESCRIPTIONS

MAIN SCREENS

SCREEN 1 — *Identification*

Field

Local #

e.g.

9 Characters

52B /16W /004 Note the slashes are part of the display but not the data.

Attribute

A number incorporating the NTS that uniquely identifies a prospect on a 1:50,000 topo sheet. The first 6 characters identify the map sheet and the last three the prospect within the sheet. N.B. the difference to some Federal numbers that initially identify the 1:250,000 map sheet then the prospect number within the sheet e.g. 52B 0199.

N.B It is very important to complete this field first when adding new data. This is because the application automatically copies the data into the satellite fields. If this number is not entered, the link to the satellite data tables is not established and any data entered is lost.

Field Location/Name

minfile.dbf / LOCAL_NO
alteratn.dbf / LOCAL_NO
assays.dbf / LOCAL_NO
asses_no.dbf / LOCAL_NO
classifn.dbf / LOCAL_NO
commodit.dbf / LOCAL_NO
geochron.dbf / LOCAL_NO
minerals.dbf / LOCAL_NO
name.dbf / LOCAL_NO
product.dbf / LOCAL_NO
ref_sour.dbf / LOCAL_NO
reserves.dbf / LOCAL_NO
rocks.dbf / LOCAL_NO
sketches.dbf / LOCAL_NO
structur.dbf / LOCAL_NO
visits.dbf / LOCAL_NO

NAME

In this browse window the prospect names are ranked in their perceived descending order of common present use. To open the window for data entry, highlight a record then press enter or double click with the mouse.

Sequence #	4 Characters	
e.g	005	
Attribute	An arbitrary number denoting the rank of the data record. The lower the number the higher the ranking. With this number it is possible to control the ranking of data without entering it in a specific order. Initially it is suggested that increments of 5 be used in order to insert data in a different rank at a later date.	
Field Location/Name	name.dbf	/ SEQ_NO

Name	40 Characters	
Attribute	Accepted names used for the mineral prospect.	
Data Entry	Double click on the field to open the browse window for data entry or highlight the browse window then press enter.	
Field Location/Name	name.dbf	/ NAME

Circa	4 Characters	
Attribute	Year the name in the previous field first appears in the records.	
Field Location/Name	name.dbf	/ CIRCA

End of Name Browse Window

MDI #	6 Characters	
e.g.	S 9999	
Attribute	A consecutive number assigned by the OGS in Sudbury with little geographic information. S 0001 can be in Sudbury, S 0002 can be in Attawapiskat.	
Field Location/Name	minfile.dbf	/ MDI_NO
N.B.	In a number of cases a single mineral prospect has been assigned numerous different MDI numbers. Where this occurs the duplicate numbers are listed in the "Point Located" field and all quoted names are listed.	

NMI #	10 Characters	
e.g.	52B16 CU 020	
Attribute	A number assigned by the Federal Government in their National Mineral Inventory database that is no longer maintained. The	

number refers to the 20th copper showing in the 1:250,000 sheet. In some cases this number is not unique and only the NTS has been assigned.

Field Location/Name minfile.dbf / NMI_NO

Status 13 Characters

Constraints
PAST PRODUCER
PRODUCER
DEPOSIT
OCCURRENCE
SHOWING
FLOAT
VISIT

Data Entry The desired choice can be made by clicking on the field then highlighting the desired choice with the mouse.

Comments Terms like occurrence and prospect are inconsistently ranked in the exploration community and is confusing. Dictionaries define a mineral occurrence as mineralization in any amount, be it in trace quantities or a mine. A prospect is variously defined as a geological concept upon which exploration is based or even test mining but pertaining to the act of prospecting. Therefore the rank of the terms above has reverted to an old system that has less confusion. The term prospect is used in this report in the wide sense given above to refer to all the various statuses collectively.

Field Location/Name minfile.dbf / STATUS

Owner 25 Characters

Attribute The last registered owner at the time of compilation or revision.

Field Location/Name minfile.dbf / OWNER

Reserves 1 Character

Constraints Yes or No

Attribute Have any formal reserve calculations been carried out.

Data entry Click on the box if affirmative.

Field Location/Name minfile.dbf / RESERVES

Production 1 Character

Constraints Yes or No

Attribute Has any production been realized from the deposit.

Data entry Click on the box if affirmative.

Field Location/Name minfile.dbf / PRODUCTION

COMMODITIES

In this browse window the commodities are ranked in their order of importance. To open the window for data entry double click with the mouse on the browse window.

Sequence # — 4 Characters

- e.g: 005
- Attribute: An arbitrary number denoting the rank of the data record. The lower the number the higher the ranking.
- Field Location/Name: commodit.dbf / SEQ_NO

Class — 12 Characters

- Constraints: **METALLIC**, **INDUSTRIAL**, **CONSTRUCTION**, **FUEL**, **GEMS**
- Data entry: Type in the appropriate category of the commodity. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list.
- Field Location/Name: commodit.dbf / CLASS

Group — 15 Characters

- Constraints:
  - METALLIC
    - **BASE METAL**
    - **PRECIOUS METAL**
    - **PLATINOIDS**
    - **REE**
  - INDUSTRIAL
    - **ABRASIVES**
    - **BINDERS**
    - **CERAMICS**
    - **ELECTRONIC/OPTICAL**
    - **FILLERS**
    - **FOUNDRY**
    - **GLASS**
    - **PIGMENTS**
    - **ADDITIVES**

CONSTRUCTION
STONE
AGGREGATES
SAND/GRAVEL
FIBRE/CEMENT

FUEL
PEAT
COAL
PETROLEUM

GEMS

Data entry — Type in the appropriate category of the commodity. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. This includes a blank field if the commodity does not fit any of the above such as Fe is neither a base metal nor any of the other groups.

Field Location/Name — commodit.dbf / GROUP

Commodity — 8 Characters

e.g. — Au or TALC

Constraints — A long list of commodities has been entered in the dictionary. The full present dictionary is listed in Appendix B.

Data entry — If the commodity is regarded as a potential metal supply the element symbol is used otherwise the commodity is spelt out in full. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list.

Field Location/Name — commodit.dbf / COMMODITY

Grade — 5 Characters

Attribute — The grade of the commodity is that quoted or calculated from either a) Production figures, b) Reserve Calculations c) Bulk sampling, d) Average of several intersections, e) average of individual assays from exploration efforts, or f) average of assays performed by the government. The first option is the preferred source for a quoted grade and the last the least desirable. The averaging has been performed by the authors. If the grade is unknown, leave the field blank

Field Location/Name — commodit.dbf / GRADE

End of Commodity Browse Window

SCREEN 2 — *Location*

Province/State — 30 Characters
- Attributes: Name of the Province or State that the mineral prospect occurs in.
- Field Location/Name: minfile.dbf / PROV_STATE

Township/Area — 30 Characters
- Attributes: Name of a legal township name, or if none, the name of the 1:50,000 topo map that contains the prospect. Include the abbreviation TWP if the area is a township.
- Field Location/Name: minfile.dbf / TWP_AREA

Mining Division — 20 Characters
- Constraints:
  KENORA
  RED LAKE
  LARDER LAKE
  PORCUPINE
  PATRICIA
  SUDBURY
  SOUTHERN ONTARIO
  SAULT STE MARIE
  THUNDER
- Attributes: These are the legal names for the different mining division in Ontario where the claim records are kept.
- Data Entry: The desired choice can be made by clicking on the field then highlighting the desired choice with the mouse.
- Comments: This attribute is the legal subdivision of the Provincial land base may permit a linking field to the ACMaps database listing claims that is being compiled.
- Field Location/Name: minfile.dbf / MIN_DIV

Claim Map # — 6 Characters
- e.g. M-1044. Note the dash is part of the display but is not part of the data
- Attributes: The number of the most recent claim map available, and in current use, at the Mining Recorder's office.
- Field Location/Name: minfile.dbf / CLM_MAP_NO

Located by — 10 Characters
- Constraints:
  GPS
  DIGITIZING

Data entry	With the mouse click on the field to display a list and then make the desired selection.
Comments	GPS refers to a global positioning system. During this study a Garmin 100 surveying model was used in the field to collect averaged readings until the stated precision was <10m. However, repeated readings under different weather conditions suggested the precision is more like <50m. The settings on the Garmin used in this study are a) CANADA NAD 1927 and b) GEOD. When digitizing was employed, company grid maps were usually transferred to OBM 1:20,000 maps for a UTM determination. If so the scales and procedure will be documented in "Point Located"
Field Location/Name	minfile.dbf / LOCN_METH

NTS

	6 Characters
e.g.	64D/04E
Attribute	The National Topographic System code for a 1:50,000 scale topographical map. These maps, may be split into east and west halves. The slash is part of the display but not the data.
Field Location/Name	minfile.dbf / NTS

Latitude

Degrees	3 Characters
e.g.	49° N
Constraints	0 to 90°
Comments	Negative values are permitted which indicate that the latitude is from the southern hemisphere.
Field Location/Name	minfile.dbf / LAT_DEG_N

Minutes	5 Characters
e.g.	44.78' N
Constraints	0 to 60.00'
Attribute	Minutes are in minutes and decimal minutes. Seconds are not used
Field Location/Name	minfile.dbf / LAT_MIN

Longitude

Degrees	4 Characters
e.g.	85° W
Comments	Negative values are permitted which indicate that the longitude is from the western hemisphere. However, at this stage the Swayze data has not been converted to negative readings.
Field Location/Name	minfile.dbf / LONG_DEG_W

Minutes	5 Characters
e.g.	4.78' N
Constraints	0 to 60.00'
Attribute	Minutes are in minutes and decimal minutes. Seconds are not used
Field Location/Name	minfile.dbf / LONG_MIN

UTM Zone	2 Characters
e.g.	17
Attributes	The appropriate zone number differentiating which square planar Universal Transverse Mercator grid is being used.
Field Location/Name	minfile.dbf / UTM_ZONE

Easting	6 Characters
e.g	543698
Attributes	The distance east of the UTM grid origin expressed in metres.
Comments	At present the quoted values correspond to the 1927 datum, the datum still being used for all paper maps. N.B. some digital maps have been converted to the 1983 convention that may introduce an apparent error of several hundred metres.
Field Location/Name	minfile.dbf / EASTING

Northing	7 Characters
e.g	2543698
Attributes	The distance north of the UTM grid origin expressed in metres.
Comments	The quoted values must correspond to the 1927 datum, the datum still being used for all paper maps. N.B. some digital maps have been converted to the 1983 convention that may introduce an apparent error of several hundred metres.
Field Location/Name	minfile.dbf / NORTHING

Point Located	Unlimited Characters
Constraints	None
Comments	A written description of the point located on the ground, e.g. Trench # 5 on XYZ Exploration's map drawn in 1936. If digitizing was used the type of maps or field sketches must be stated and the origin and scale of the topo map the information was transferred to. Duplicate MDI numbers are also listed in this field.
Field Location/Name	minfile.dbf / POINT

Access — Unlimited Characters

Constraints — None

Comments — A written description suggesting how it is best to access the mineral prospect, what roads, rivers, lakes, and trails etc.

Field Location/Name — minfile.dbf / ACCESS

SCREEN 3 — ***Geological Setting***

Exploration History — Unlimited Characters

Constraints — None

Comments — A short written description of all exploration that has covered the mineral prospect, when, by whom, and the significant result from each program. This excludes government surveys.

Field Location/Name — minfile.dbf / EXPL_HIST

Era — 17 Characters

Constraints —
CENOZOIC
MESOZOIC
PALEOZOIC
NEOPROTEROZOIC
MESOPROTEROZOIC
PALEOPROTEROZOIC
NEOARCHEAN
MESOARCHEAN
PALEOARCHEAN

Data entry — With the mouse click on the field to display a list and then make desired selection.

Comments — The Tectonic Assemblages of Ontario map in the recent Geology of Ontario map series should be used as a guide to classification.

Field Location/Name — minfile.dbf / ERA

Period/Epoch — 25 Characters

Constraints —
HOLOCENE
PLEISTOCENE
PLIOCENE
MIOCENE
OLIGOCENE
EOCENE
PALEOCENE
CRETACEOUS
JURASSIC
TRIASSIC
PERMIAN

CARBONIFEROUS
DEVONIAN
SILURIAN
ORDOVICIAN
CAMBRIAN

Data entry: With mouse click on the field to display a list and then make desired selection.

Comments: The Tectonic Assemblages of Ontario map in the recent Geology of Ontario map series should be used as a guide to classification.

Field Location/Name: minfile.dbf / EPOCH

Structural Province Attribute

12 Characters

Names formally proposed for different structural provinces (Stockwell et al. 1968). This is not a closed list and may be expanded but the initial suggested options are:–

BEAR
CHURCHILL
GRENVILLE
NAIN
SLAVE
SOUTHERN
SUPERIOR

Data entry: With mouse click on the field to display a list and then make desired selection.

Field Location/Name: minfile.dbf / PROVINCE

Subprovince Attribute

40 Characters

Names formally proposed for different structural subprovinces (Thurston 1991). This is not a closed list and may be expanded but the initial suggested options are:–

SUPERIOR

ABITIBI
BERENS RIVER
BIRD RIVER
ENGLISH RIVER
KAPUSKASING
OPATICA
QUETICO
SACHIGO
UCHI
WABIGOON
WAWA
WINNIPEG RIVER
WINISK

SOUTHERN

ANIMIKIE

COBALT EMBAYMENT[9]

NIPIGON EMBAYMENT

PENOKEAN FOLD BELT

SUTTON INLIER

GRENVILLE

GRENVILLE FRONT

CENTRAL **GNEISS BELT**

CENTRAL **METASEDIMENTARY BELT**

CENTRAL **METASEDIMENTARY** BELT **BOUNDARY**

PHANEROZOIC

HUDSON BAY BASIN

MOOSE RIVER BASIN

MICHIGAN BASIN

APPALACHIAN BASIN

QUEBEC BASIN

Data entry — With mouse click on the field to display a list and then make desired selection.

Field Location/Name — minfile.dbf / SUBPROV

Terrane

Attribute — 20 Characters. Names formally proposed for different structural / lithological packages. This is an open format field.

Data Entry — Type in the desired term in upper case. There is no dictionary for this field.

Field Location/Name — minfile.dbf / TERRAIN

Assemblage/Group

Attribute — 25 Characters. Names formally proposed for different lithological packages and listed in the Tectonic Assemblages of Ontario (OGS 1992). This is an open format field.

Data Entry — Type in the desired term in upper case. There is no dictionary for this field.

Field Location/Name — minfile.dbf / ASSEM_GRP

Formation

Attribute — 20 Characters. Names formally proposed for a lithological unit and listed in the Tectonic Assemblages of Ontario (OGS 1992). This is not a closed list and may be expanded.

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[9] Terms typed in the small font are not included in the data field.

Data Entry — Type in the desired term in upper case. There is no dictionary for this field.

Field Location/Name — minfile.dbf / FORMATION

Metamorphic Type

Constraints — 10 Character
CONTACT
REGIONAL

Attribute — An expression of the dominant type of metamorphism.

Data entry — With mouse click on field to display list and then make desired selection.

Field Location/Name — minfile.dbf / META_TYPE

Metamorphic Grade

Constraints — 15 Character
ZEOLITE
GREENSCHIST
AMPHIBOLITE
HORNFELS
GRANULITE
BLUESCHIST
ECLOGITE

Attribute — An expression of the dominant grade of metamorphism.

Data entry — With mouse click on field to display list and then make desired selection.

Field Location/Name — minfile.dbf / META_GRAD

Metamorphic Relationship

Constraints — 12 Character
PRE MINERAL
SYN MINERAL
POST MINERAL

Attribute — An expression of the relationship between the metamorphism and the mineralization.

Data entry — With mouse click on field to display list and then make desired selection.

Field Location/Name — minfile.dbf / META_RELN

LITHOLOGIES

In this browse window there are six data fields used to classify a rock in two sets. The first set includes the data fields Class and Group with fixed constraints on the permitted range of acceptable terms and the Group field is nested within the Class field. The second set includes the data fields Lithology and Modifier. At the moment it is felt that rock names should not be confined to any single group or even class because present practical and theoretical usage is not specific enough. For example 1) diorite is used in both the volcanic and intrusive sense, 2) greenstone may be either a sediment or a volcanic, 3) charnockite may be an intrusive rock or a metamorphic rock, 4) Tuffs may be felsic to ultramafic in composition.

It is recommended that the most basic term be used if at all possible in the lithology field. This should permit adequate classification of a rock type in the four key word fields and be able to exploit the advantages of a computer database. Specific detailed terms can be used in the descriptive memo field which can also be searched. For example:–

CLASS	Volcanic	Intrusive
GROUP	Mafic	Carbonatite/Kimberlite
LITHOLOGY	Basalt	Carbonatite
MODIFIER	Calc–alkaline	
DESCRIPTION	Pillowed flows ...	Specifically this rock is a beforsite ...

Each rock type has six related fields, class, group, lithology, modifier, host and abundance. The order of importance of each rock type to the mineralization is controlled by the sequence number.

Guides used to develop the rock classification are:–

1) Streckeisen 1976, for Igneous Rocks
2) Streckeisen 1979, for Igneous Rocks
3) Streckeisen 1979, for Volcanic Rocks
4) Trowell et al. 1978, for Volcanic Rocks
5) Jensen 1976, for Volcanic Rocks
6) Blackburn et al. 1978, for Sedimentary Rocks
7) Winkler 1967, for Metamorphic Rocks
8) Mehnert 1968, for Migmatites
9) Higgins 1971, for Cataclastic Rocks
10) Sørensen 1974, for Peralkaline Rocks

Key to relative status of terms in the lithology field:–

Basic Term
Approved Specific Term
Loosely Applied Term

Sequence #
e.g 005
Attribute: An arbitrary number denoting the rank of the data record. The lower the number the higher the ranking.
Field Location/Name: rocks.dbf / SEQ_NO

Class
4 Characters
Constraints: **INTRUSIVE**, **VOLCANIC**, **SEDIMENTARY**, **METAMORPHIC**, **METASOMATIC**, **CATACLASTIC**, **SURFICIAL**
Attribute: The most basic lithological groupings and must be entered.
Data entry: Type in the appropriate category. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list.
Field Location/Name: rocks.dbf / CLASS

Group
14 Character
Constraints: The terms listed below, Table 2 in Appendix B, for the various different lithological classes.
Attribute: The second most basic lithological groupings.
Data entry: Type in the appropriate group. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list.
Field Location/Name: rocks.dbf / GROUP

Lithology
35 Characters
Attribute: Preferably a formal name for the rock based on the best information available but exotic terms are to be avoided. In leu of a formal name a field term or a blank are permitted until better data is available. Where data is entered from old records without

field verification, informal terms are preferred to second guessing a formal name. Listed below in Table 2 in Appendix B are most of the common terms together with all of the basic formal terms. Though the list may be expanded it is to be done with great caution.

Data entry — Type in the appropriate rock type. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. Blank entries are permitted.

Field Location/Name — rocks.dbf / LITHOLOGY

Modifiers

Attribute — 35 Characters
Various petrological, mineralogical, chemical, textural terms in Table 3, Appendix B. The list may be expanded.

Data Entry — Multiple entries in any combination can be entered when separated with a comma, but preferably entered in order of importance. There is no dictionary for this field.

Field Location/Name — rocks.dbf / MODIFIER

Host

Constraints — 1 Character
Attribute — Yes or No
Data entry — Is the lithology hosting mineralization or not?
Field Location/Name — T or F - Y or N.
rocks.dbf / HOST

Abundance

Constraints — 2 Characters
Attribute — 1 to 10
Estimated abundance of a rock type on a scale of 1 to 10 where 1 is equivalent to a percentage of 1 to 10% and 10 is equivalent to a range of 90 to 100%

Field Location/Name — rocks.dbf / ABUNDANCE

End of Lithology Browse Window

ECONOMIC MINERALOGY

The mineralogy browse window has three fields, sequence number, mineral, and principal.

Sequence # — 4 Characters
e.g — 005

Attribute	An arbitrary number denoting the relative abundance of the mineral. The lower the number the greater the abundance.
Field Location/Name	minerals.dbf / SEQ_NO

Mineral — 15 Characters

Attribute	Any mineral of economic significance or diagnostic of economic potential. A list is given in Table 4, Appendix B
Data entry	Type in the appropriate mineral. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. N.B. the list also includes alteration minerals. Additional minerals can be added to the dictionary but not while the application is running.
Field Location/Name	minerals.dbf / MINERAL

Principal Mineral Economical? — 1 Character

Constraints	Yes or No
Attribute	Is the mineral of economic interest directly or does it contains the a potentially economic product?
Data entry	Enter T or F - Y or N either way the data will be set to a standard format.
Field Location/Name	minerals.dbf / PRINCIPLE

End of the Mineralogy Browse Window

ALTERATION

In this browse window there are five related data fields Sequence number, Mineral, Type, Habit, and Intensity. The field "Type" refers to the type of alteration associated with the mineral listed in the second field. Each alteration mineral is ranked in its order of importance by the sequence number

Either the mineral field or Type field can be left blank depending on the degree confidence in the correct field identification.

Sequence # — 4 Characters

e.g	005
Attribute	An arbitrary number denoting the relative importance of the alteration mineral or type of alteration. The lower the number the greater the importance.
Field Location/Name	alteratn.dbf / SEQ_NO

Mineral

Attribute	16 Characters An alteration mineral present and associated with the mineralization. A list of minerals in the dictionary are listed in Table 4 in Appendix B.
Data entry	Type in the appropriate mineral name. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. Blank entries are permitted.
Field Location/Name	alteratn.dbf / MINERAL

Type

Attribute	20 Characters The type of alteration associated with a specific or a suite of alteration minerals. Listed in Table 5 in Appendix B are most of the common terms together with the related mineral. Though the list may be expanded it has to be done outside of the application.
Data entry	Type in the appropriate alteration type. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. Blank entries are permitted
Field Location/Name	alteratn.dbf / TYPE

Habit

Attribute	12 Characters How the alteration dominantly occurs in the outcrop.
Constraints	**DISSEMINATED** **MASSIVE** **NETWORK** **REPLACEMENT** **STOCKWORK** **VEINS**
Data entry	Type in the appropriate habit. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. Blank entries are permitted.
Field Location/Name	alteratn.dbf / HABIT

Intensity

Attribute	6 Characters The intensity of the alteration on a three fold scale.
Constraints	**LOW** **MEDIUM** **HIGH**
Data entry	Type in the appropriate grade.
Field Location/Name	alteratn.dbf / INTENSITY

End of the Alteration Browse Window

SCREEN 5 *Classification and Description*

STRUCTURE

Sequence #	4 Characters
e.g	005
Attribute	An arbitrary number denoting the relative importance of the structural feature. The lower the number the greater the importance.
Field Location/Name	structur.dbf / SEQ_NO
Structure	25 Characters
Attribute	Structural feature related to the mineralization. Though the list may be expanded it is to be done with caution.
Constraints	**FRAGMENTED** **BRECCIA** **FAULT** **SHEAR** **FOLD** **FOLD HINGE** **LINEATION** **FOLIATION** **JOINT** **PALEO–SURFACE** **CONTACT** **UNCONFORMITY** **INTERSECTION** **NONE**
Data entry	Type in the appropriate habit. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. Blank entries are permitted.
Field Location/Name	structur.dbf / STRUCTURE

End of the Structure Browse Window

CHARACTER & CLASSIFICATION

Sequence #	4 Characters
e.g	005
Attribute	An arbitrary number denoting the relative importance of the character of classification of the prospect. The lower the number the greater the importance.
Field Location/Name	classifn.dbf / SEQ_NO

Character	15 Characters
Attribute	An indication of the character of the mineralization. Blank entries are permitted and there is no absolute link between the character of mineralization and the classification of the mineralization in the same record.
Constraints	**VEIN** **STOCKWORK** **BRECCIA** **PIPE** **UNCONSOLIDATED** **PODIFORM** **LAYERED** **STRATABOUND** **STRATIFORM** **CONCORDANT** **DISCORDANT** **MASSIVE** **DISSEMINATED** **SHEARED** **UNKNOWN**
Data entry	Type in the appropriate prospect character or if several terms apply enter each one in a new record. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. Blank entries are permitted.
Field Location/Name	classifn.dbf / DEP_CHARC

Classification	15 Characters
Attribute	An interpretation of the origin of the mineralization. The more dominant interpretation is to be entered first. e.g. SEDEX deposits should be classified both as sedimentary and exhalative.
Constraints	**REPLACEMENT**

MAGMATIC
VOLCANOGENIC
SEDIMENTARY
SYNGENETIC
EPIGENETIC
HYDROTHERMAL
RESIDUAL
PORPHYRY
IGNEOUS CONTACT
SKARN
PEGMATITE
PLACER
EVAPORITE
EXHALATIVE
DIATREME
EPITHERMAL
MESOTHERMAL
FOSSIL FUEL
METAMORPHIC
INDUSTRIAL
UNKNOWN

Data entry — Type in the appropriate prospect classification or if several classifications apply enter each one in a new record. If a spelling mistake or an invalid choice is made, a box will appear when trying to exit the record. In the box the permitted options can be seen by dragging the mouse through the list. Blank entries are permitted.

Field Location/Name — classifn.dbf / DEP_CLASF

End of the Character & Classification Browse Window

DESCRIPTIONS

Geological Description — Unlimited Characters
- Constraints — None
- Comments — A written description briefly describing the rocks present and any significant features such as alteration, etc.
- Field Location/Name — minfile.dbf / DESCRIP

Structural Description — Unlimited Characters
- Constraints — None

Comments	A written description briefly describing the structural setting and its relationship to the mineralization. Mention is to be made to major feature that also occur in close proximity, e.g. Destor Porcupine Fault.
Field Location/Name	minfile.dbf / STRU_DESC

SCREEN 6 ***Mineralization - Size - Administration***

Mineralization — Unlimited Characters

Constraints	None
Comments	A written description briefly describing the mineralization of economic importance and its relation to its surroundings.
Field Location/Name	minfile.dbf / ORE_DESCRP

Shape — 12 Character

Attribute	A term to identify the most appropriate shape.
Constraints	**REGULAR** **TABULAR** **CYLINDRICAL** **BLADED** **IRREGULAR**
Data Entry	With the mouse, click on the field to display the options then pick the applicable term.
Field Location/Name	minfile.dbf / SHAPE

Length — 4 Characters

Attribute	Tested length of mineralization in metres via underground development, drilling, stripping, or trenching. If such work has not been done nothing is entered in the field, as more than one intersection is required.
Field Location/Name	minfile.dbf / LENGTH

Thickness — 6 Characters

Attribute	Tested thickness of mineralization in metres (e.g. 23.75m) with drilling, stripping, or trenching. If such work has not been done nothing is entered in the field. However, one drill hole intersection warrants an entry.
Field Location/Name	minfile.dbf / THICKNESS

Depth		6 Characters
	Attribute	Tested depth of mineralization in metres via drilling., stripping, or trenching. If such work has not been done nothing is entered in the field. More than one intersection is required.
	Field Location/Name	minfile.dbf / DEPTH
Open		1 Character
	Attribute	If exploration has closed of the mineralization the field is not checked off. Otherwise the mineralization must be assumed to be open and checked off. In this study all prospects have deliberately been set at open.
	Data entry	To change the field is simply done by clicking on the field with the mouse.
	Field Location/Name	minfile.dbf / OPEN
Strike		3 Characters
	Attribute	The astronomic strike of the long axis of the "planar" mineralization. N.B. the right hand rule is used to give the strike. i.e. when looking along the given strike direction the direction of dip is to the right.
	Field Location/Name	minfile.dbf / STRIKE
Dip		2 Characters
	Attribute	The dip of the "planar" mineralization.
	Field Location/Name	minfile.dbf / DIP
Plunge		2 Characters
	Attribute	The plunge of a linear trend in the mineralization.
	Field Location/Name	minfile.dbf / PLUNGE
Azimuth		3 Characters
	Attribute	The astronomic bearing of the plunge direction of a linear trend to the mineralization.
	Field Location/Name	minfile.dbf / AZIMUTH

ADMINISTRATION

Prospect Visited	1 Character
Attribute	Check if the prospect has been visited. If so comments may be entered in the pull down screen.
Field Location/Name	minfile.dbf / VISITED
Core Library	1 Character
Attribute	Check if core from the prospect is on file in the District Core Library.
Field Location/Name	minfile.dbf / DCL_HOLES
Assays Available	1 Character
Attribute	Check if samples of the mineralization have been collected and entered into the database. If so the results must be entered in detail in the pull down screen.
Field Location/Name	minfile.dbf / ASSAYS
WRA Available	1 Character
Attribute	Check if any samples analyzed for whole rock or trace element composition have been collected from near the mineral prospect. If so the results must be entered in a separate data base which is not linked to the application database with the same structure as Petroch. The name of this file is SWAZWRA.DBF.
Field Location/Name	minfile.dbf / GEOCHEMS
Geochronology Available	1 Character
Attribute	Check if any geochronological studies have been carried out on the prospect. If so the results can be summarized and entered in the pull down screen.
Comment	The ability to enter geochronological data has been added in order to achieve greater data compatibility with the BC Minfile application. However, in the present study no such data exists.
Field Location/Name	minfile.dbf / GEOCHRON
Sketches Available	1 Character
Attribute	Check if sketches have been entered into the database. If so the sketches can be entered in the pull down screen on the Windows version of the application.

Comment — Because of potential format problems with other government systems, a decision was made that no sketches would be entered in the present study.

Field Location/Name — minfile.dbf / SKETCH

Coded

Date — 8 Characters

Attribute — The date the record was initial entered into the data base, (e.g. 1993/01/28). In the reports the date will always be printed in the international format. The format for data entry is dependent upon the style selected set in a config.fp file when the underlying FoxPro software is started.

Field Location/Name — minfile.dbf / CODED

By — 4 Characters

Attribute — Initials of the geologist entering the original data record.

Field Location/Name — minfile.dbf / GEOLOGIST1

Revised

Date — 8 Characters

Attribute — The date the record was last updated, (e.g. 1993/01/28)

Field Location/Name — minfile.dbf / REVISED

By — 4 Characters

Attribute — Initials of the geologist revising the data record. Any such revisions should typically be accompanied by a property visit report.

Field Location/Name — minfile.dbf / GEOLOGIST2

End of the Main Screens

PULL DOWN SCREEN *Reserves*

Prospect

Attribute	Name of the prospect being documented.
Data entry	This field is automatically filled when a new record is started.

Ore Zone

	15 Characters
Attribute	Name of the zone for which the calculation has been made. This name may differ from the name of the deposit.
Field Location/Name	reserves.dbf / RORE_ZONE

Tonnes

	10 Characters
Attribute	Metric tonnes of ore quoted in the calculation.
Field Location/Name	reserves.dbf / RTONNES

Category

	15 Characters
Attribute	Based on the information available the reserve calculation should be categorized so as to indicate the reliability of the reserve calculation.
Constraints	**RECOVERABLE** **PROVEN** **PROBABLE** [10] **POSSIBLE** **UNCLASSIFIED** **EXHAUSTED** **ASSAY**
Data entry	Click on the field with the mouse and dragged down the list until the appropriate type of reserve category is highlighted then release the mouse.
Comment	The assay category is included to be conformable with the BC Minfile application where the results of bulk sampling can be entered.
Field Location/Name	reserves.dbf / RCATEGORY

Year

	4 Characters
Attribute	Year that the quoted calculation was performed.
Field Location/Name	reserves.dbf / RYEAR

---

[10] N.B. In the MDI the relationship between Probable Reserves and Possible Reserves has been incorrectly inverted.

Commodity — 10 Characters

Attribute: The commodity estimated in the calculation. Three commodities can be entered on separate lines and the most important is listed first.

Field Location/Name: reserves.dbf / RCOMMOD_1 / RCOMMOD_2 / RCOMMOD_3

Grade — 5 Characters

Attribute: The grade of the commodity estimated in the calculation. This is expressed in grammes/tonne if the commodity is a precious metal, otherwise the grade is to be expressed in %.

Field Location/Name: reserves.dbf / RGRADE_1 / RGRADE_2 / RGRADE_3

Comments — Unlimited

Attribute: A full reference as to the source of the reserve calculation is to be included. Comments as to the type and size of the database used in the calculation can be included. Generally "back of the envelope" calculations are not listed unless they have been extensively quoted in the literature.

Field Location/Name: reserves.dbf / RCOMMENTS

PULL DOWN SCREEN *Production*

Prospect

Attribute	Name of the prospect being documented.
Data entry	This field is automatically filled when a new record is started.

Deposit 20 Characters

Attribute	Name of the zone from which production has been realised. This name may differ from the name of the deposit.
Field Location/Name	product.dbf / PNAME

Year 4 Characters

Attribute	Year that the production figures apply. This is based on a calendar year and is preferentially derived from the official figures filed with the government.
Field Location/Name	product.dbf / PYEAR

Tonnes Mined 10 Characters

Attribute	Metric tonnes of ore production in the calendar year. This figure is not to include the amount of waste rock hoisted in any operation or the amount of overburden removed.
Field Location/Name	product.dbf / PTONNES

Depth of Workings 4 Characters

Attribute	Deepest working depth of the mine in the year expressed in metres
Comments	This field is included to be compatible with the Ontario MDI, however, the source of such information is dependant on casual comments as the data is not systematically collected by any agency.
Field Location/Name	product.dbf / PDEPTH

Mining Method 20 Characters

Attribute	The principal method of mining carried out in the year.
Constraints	**PLACER** **HYDRAULIC** **QUARRY** **OPEN PIT** **LEACHING** **UNDERGROUND** **UNDERHAND** **SHRINKAGE**

CUT & FILL
SUBLEVEL STOPING
VERTICAL RETREAT
BLOCK CAVING
ROOM & PILLAR
LONG WALL
TOP SLICING
SPECIALIZED
UNKNOWN

Data entry — Click on the field with the mouse and dragged down the list until the appropriate type of mining method is highlighted then release the mouse.

Comment — In detailed analyses the type of mining method is very informative on the geology, continuity, and ground control of any deposit. Hence this field has been expanded from the options in the MDI to include most of the important methods. However, the source of such information is dependant on casual comments as the data is not systematically collected by any agency.

Field Location/Name — product.dbf / PMINE_METH

Mill Capacity — 5 Characters

Attribute — The capacity of the mill on site in tonnes per day.

Comments — This is not to include the capacity of any off–site central milling facility. Any such facility should be recorded with the deposit which it is primarily associated.

Field Location/Name — product.dbf / PMIL_CAPCI

Product — 8 Characters

Attribute — The product that comes out of the mill, but not necessarily the physical form. i.e. Cu rather than electrode Cu. There is space for four commodities which are to be ranked in the relative order of importance.

Field Location/Name — product.dbf / PCOMMOD_1
/ PCOMMOD_2
/ PCOMMOD_3
/ PCOMMOD_4

Amount — 9 Characters

Attribute — The weight of the commodities produced. This to be expressed in grammes if the product is a precious metal, otherwise the production is to be expressed in kilograms.

Field Location/Name — product.dbf / PMASS_OF_1
/ PMASS_OF_2

/ PMASS_OF_3
/ PMASS_OF_4

Credits	10 Characters
Attribute	Byproducts of an operation for which production figures are not normally released. Multiple entries are possible and must be separated by commas.
e.g.	Iridium from the Kidd Creek Deposit.
Field Location/Name	product.dbf / PCREDITS

Grand Totals

Comment	These fields are automatically calculated by the application on start up. The application in calculating these figures does not care what ranking a commodity is on any year. However, the calculation is case sensitive, i.e. Au and AU are treated as two separate commodities.

Comments	Unlimited
Attribute	Written description of any major event that affected production in the year.
e.g.	The lower levels of the mine were flooded in June of the year which resulted in production cutbacks from two thirds of the working faces.
Field Location/Name	product.dbf / PCOMMENT

PULL DOWN SCREEN *Visits*

Though multiple visit reports may be entered for any mineral prospect and in any order, they will be sorted based on the year of the visit and the earliest visit will be displayed in the screen by default.

Prospect

Attribute	Name of the prospect being documented.
Data entry	This field is automatically filled when a new record is started.

Geologist 15 Characters

Attribute	Name of the geologist who visited the prospect and entered the report on the page
Field Location/Name	visits.dbf / V_GEOLOGIS

Date 8 Characters

Attribute	Date of the field visit (e.g 1993/02/06)
Field Location/Name	visits.dbf / V_DATE

Comments Unlimited Characters

Attribute	Description of changes in/or physical state of the operation. Also if there are reasons to change a geological classification previously recorded from an earlier visit, the reasons and additional observations may be entered here.
Field Location/Name	visits.dbf / V_COMMENTS

PULL DOWN SCREEN *Assays*

Multiple assays may be entered for any mineral prospect and in any order, they will be sorted based on the year collected, geologist, and sample number. The earliest assay result will be displayed in the screen by default.

Prospect
- Attribute: Name of the prospect being documented.
- Data entry: This field is automatically filled when a new record is started.

Sample #
- 6 Characters
- Attribute: Number assigned to the sample in the field.
- Field Location/Name: assays.dbf / ASAMPLE_NO

Source
- 15 Characters
- Attribute: Name of the person who collected the sample.
- Field Location/Name: assays.dbf / A_SOURCE

Year
- 4 Characters
- Attribute: Year the sample was collected
- Field Location/Name: assays.dbf / A_YEAR

Type
- 10 Characters
- Attribute: Type of sample collected.
- Constraints:
  - **GRAB**
  - **CHIP**
  - **CHANNEL**
  - **CORE**
  - **PANEL**
  - **MUCK**
  - **BULK**
  - **SLUDGE**
  - **FLOAT**
- Data entry: Click on the field with the mouse and dragged down the list until the appropriate type of sample is highlighted then release the mouse.
- Field Location/Name: assays.dbf / A_TYPE

Lab
- 15 Characters
- Attribute: Name of the laboratory who performed the analysis.
- Field Location/Name: assays.dbf / A_LAB

Rock — 25 Characters

Attribute	Type of rock assayed.
Constraints	All the rock types listed in the lithology browse window are permitted, (Appendix B, Table 2).
Data entry	Click on the field with the mouse and dragged down the list until the appropriate type of sample is highlighted then release the mouse.
Field Location/Name	assays.dbf / A_ROCK

UTM Zone — 2 Characters

e.g.	17
Attributes	The appropriate Universal Transverse Mercator Projection Zone number differentiating which square planar grid is being used.
Field Location/Name	assays.dbf / A_UTM_ZONE

Easting — 6 Characters

e.g	543698
Attributes	The distance east of the UTM grid origin expressed in metres for the **sample location**.
Comments	The quoted values from this study correspond to the NAD 1927 datum.
Field Location/Name	assays.dbf / A_EASTING

Northing — 7 Characters

e.g	2543698
Attributes	The distance north of the UTM grid origin expressed in metres for the **sample location**.
Comments	The quoted values from this study correspond to the NAD 1927 datum.
Field Location/Name	assays.dbf / A_NORTHING

Description — Unlimited

Attributes	Description of the sample. If the sample was collected to verify a certain sample state the sample number, report where the previous value was quoted and the previous assay results
Field Location/Name	assays.dbf / A_DECRIPT

PRECIOUS METALS Au, Ag, Pt, Pd — 7 or 6 Characters

Attribute	Assay result for the precious metal expressed in g/tonne (same thing as ppm).

e.g	0.057 g/t corresponds to 57 ppb 560 g/t corresponds to 560 ppm	
Comment	Values below detection limit are expressed as negative numbers. Blank fields on the screen indicate that no result is available for that specific metal.	
Field Location/Name	assays.dbf	/ A_AU / A_AG / A_PT / A_PD

BASE METALS <u>As, Cd, Co, Cr, Cu, Mo, Ni, Pb, Sb, U, Zn</u>

	7 Characters	
Attribute	Assay result for the base metal expressed in % (1% = 10,000 ppm, 0.1% = 1,000 ppm, 0.01% = 100ppm etc)	
e.g.	0.0067 corresponds to 67 ppm	
Comment	Values below detection limit are expressed as negative numbers. Blank fields on the screen indicate that no result is available for that specific metal.	
Field Location/Name	assays.dbf	/ A_AS / A_CD / A_CO / A_CR / A_CU / A_MO / A_NI / A_PB / A_SB / A_U / A_ZN

PULL DOWN SCREEN ***Reference List***

In order to eliminate the repetitive entry of full published reference details, this screen permits linking to the full bibliography via an abbreviated code. The codes are listed in alpha numerical order automatically. N.B. it is easier to view the full list by activating the list option on the bottom menu to display the browse window. This browse window does not permit data entry.

Local #	9 Characters
Attribute	Linking field to the master database.
Data entry	This field is automatically filled when a new record is started.
Field Location/Name	ref_sour.dbf / LOCAL_NO

Publication #	10 Characters
Attribute	Some self composed - understandable abbreviation to identify a published reference in the full bibliography database. Only those references that specifically mention the mineralization are to be included. In the future this abreviation will be modelled on the publication number in the MP177 database. (Micellaneous Publication 177 by the Ontario Geological Survey).
Data entry	Upon entering a code there is a routine to check and verify if such a code exists in the full bibliography database (screen documented on the next page). If there is no corresponding entry in the bibliography an error message is displayed. A forced entry is possible by rapidly clicking on the save button twice, however, if there is no corresponding entry in the bibliography database the whole system can crash when various reports are printed.
Field Location/Name	ref_sour.dbf / SOURCE

PULL DOWN SCREEN *References*

This screen provides access to the full bibliography via an abbreviated code. The published references are printed in alphabetical order automatically based on the authors names, initials and date of publication.

Publication #		10 Characters
	Attribute	Some self composed - understandable abbreviation to identify a published reference in the full bibliography database. **N.B. this field is the linking field to the master database via the reference list database (previous mentioned screen). Hence any typo errors will prohibit the connection of the link and at a later stage can cause the application to crash during the printing of some reports.**
	Field Location/Name	refs.dbf / SOURCE
Authors	x 2	15 Characters
	Attribute	Surname of the author or authors. Two fields have been provided for up to two authors to be listed. If more than two authors are listed on the title page it is suggested that the word "others" be entered in the second field to preserve the syntax of the printed reports.
	Field Location/Name	refs.dbf / AUTHOR / AUTHOR_2
Initials	x 2	4 Characters
	Attribute	Initials of the authors separated by a period.
	Field Location/Name	refs.dbf / INITIAL_1 / INITIAL_2
Year		4 Characters
	Attribute	Year of publication
	Field Location/Name	refs.dbf / YEAR
Title		Unlimited
	Attribute	Title of the reference in full.
	Field Location/Name	refs.dbf / TITLE
Publication		Unlimited
	Attribute	Publishers of the journal or book following the style set out by the Ontario Geological Survey.
	Field Location/Name	refs.dbf / PUBLICATIO

PULL DOWN SCREEN ***Assessment File #***

In order to briefly refer to company exploration reports on file in the public domain a code, usually the file number is entered. In this report the numbers pertain to the numbering system adopted in the Timmins Resident Geologist's office. The codes are listed in alpha numerical order automatically. N.B. it is easier to view the full list by activating the list option on the bottom menu to display the browse window. This browse window does not permit data entry.

Local #		9 Characters
	Attribute	Linking field to the master database.
	Data entry	This field is automatically filled when a new record is started.
	Field Location/Name	asses_no.dbf / LOCAL_NO

File #		10 Characters
	Attribute	Some numbering system that identifies where specific public domain data pertinent to the mineral prospect is filed.
	Data entry	Upon entering a code there is a routine to check and verify if such a code exists in the assessment work database (screen documented on the next page). If there is no corresponding entry in the bibliography an error message is displayed. A forced entry is possible by rapidly clicking on the save button twice, however, if there is no corresponding entry in the bibliography database the whole system can crash when various reports are printed.
	Field Location/Name	asses_no.dbf / FILE_NO

PULL DOWN SCREEN ***Assessment***

This screen provides access to the full assessment work list and data breakdown. The work is listed in alpha numeric order automatically based on the file number, year, and company who performed the work.. The entire structure of this screen is unaltered from the BC Minfile application though some additional codes have been added to be able to enter additional types of exploration work performed in the shield environment.

<u>Assessment File</u>	10 Characters
Attribute	The assessment file number. **N.B. this field is the linking field to the master database via the assessment file # database (previous mentioned screen). Hence any typo errors will prohibit the connection of the link and at a later stage can cause the application to crash during the printing of some reports.**
Comments	Presently the file numbers in the Resident Geologist's Offices has been employed.
Field Location/Name	assessmt.dbf / FILE_NO
<u>AFRI Number</u>	15 Characters
Attribute	The file number in the new centralized, computerized assessment work database.
Comments	Presently this field has not been populated.
Field Location/Name	assessmt.dbf / AFRI
<u>Company</u>	25 Characters
Attribute	Name of the company that performed the work.
Comments	Where more than one company have entered into a joint venture to explore some ground, the name of the operator should be entered.
Field Location/Name	assessmt.dbf / COMPANY
<u>Year</u>	4 Characters
Attribute	The year the work was done.
Field Location/Name	assessmt.dbf / YEAR
<u>Work</u>	
Geological	4 Characters

Constraints	**GEOL**[11]	General	Hectares
	MAPP	Mapping	Hectares
	FOTO	Photo–interpretation	Hectares
	PETR	Petrographic	Samples
	MNGR	Mineralogical	Samples
Data entry	Click on the field with the mouse and dragged down the list until the appropriate type is highlighted then release the mouse.		
Field Location/Name	assessmt.dbf / GEOLOGY		
Amount	5 Characters		
Attribute	Amount of work done in appropriate units.		
Field Location/Name	assessmt.dbf / AMT_GEOL		
Geophysical	4 Characters		
Constraints	**GEOP**	General	Kilometres
	MAGG	Magnetic, ground	Kilometres
	MAGA	Magnetic, airborne	Kilometres
	DIPN	Dip Needle	Kilometres
	EMGR[12]	Electromagnetic, ground	Kilometres
	EMAB	Electromagnetic, airborne	Kilometres
	EMDD	Electromagnetic, down hole	Metres
	MALM	Mise–a–la–masse	Metres
	IPOL	Induced Polarization (IP)	Kilometres
	IPDD	IP, down hole	Metres
	REST	Resistivity	Kilometres
	SPOT	Self Potential	Kilometres
	SEIS	Seismic	Kilometres
	GRAV	Gravity	Kilometres
	RADG	Radiometric, ground	Kilometres
	RADA	Radiometric, airborne	Kilometres
	RADP	Radiometric drill hole probe	Kilometres
	SCGR	Scintillometer, ground	Kilometres
	SCAB	Scintillometer, airborne	Kilometres
	GRSG	Gamma Ray Spectrometer, ground	Kilometres
	GRSA	Gamma Ray Spectrometer, air	Kilometres

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[11] Generally the difference between mapping and geology is that a detailed geological map is the product of MAPP where as a geological review is given under GEOL. In the later case the number of reviews is given rather than the area.

[12] With very few exceptions when an EM survey has been carried out there is also an associated magnetic survey. Consequently to reduce the repetitive data entry only the data for the EM work is listed and particulars for the magnetic surveying can be assumed to be the same.

	RGAS	Radon gas scintillometry	Kilometres
	RADR	Radar	Kilometres
	INFR	Infra–red	Kilometres

Data entry: Click on the field with the mouse and dragged down the list until the appropriate type is highlighted then release the mouse.

Field Location/Name: assessmt.dbf / GEOPHYSIC

Amount: 4 Characters

Attribute: Amount of work done in appropriate units.

Field Location/Name: assessmt.dbf / AMT_GEOPH

Geochemical

Constraints: 4 Characters

GEOC	General	
ETCH	Fission track etch	Number samples
LKSD	Lake sediment	Number samples
SOIL	Soil	Number samples
SILT	Silt	Number samples
TILL	Till	Number samples
ROCK	Rock	Number samples
HMIN	Heavy minerals	Number samples
SAMP	Sampling/assaying	Number samples
META	Metallurgic	Number samples
HYDG	Water	Number samples
BIOG	Biochemistry	Number samples

Data entry: Click on the field with the mouse and dragged down the list until the appropriate type is highlighted then release the mouse.

Field Location/Name: assessmt.dbf / GEOCHEM

Amount: 4 Characters

Attribute: Number of sample processed.

Field Location/Name: assessmt.dbf / AMT_GEOCH

Drilling

Constraints: 4 Characters

DRIL	General	
DIAD	Diamond (surface)	Metres
UNDD	Diamond (underground)	Metres
PERD	Percussion	Metres
ROTD	Rotary	Metres
BHDR	Becker Hammer	Metres
CHUD	Churn	Metres
OBDR	Overburden	Metres

Data entry: Click on the field with the mouse and dragged down the list until the appropriate type is highlighted then release the mouse.

Field Location/Name: assessmt.dbf / DRILLING

Meterage — 5 Characters

Attribute: Amount of drilling performed in metres

Field Location/Name: assessmt.dbf / METERAG

Holes — 3 Characters

Attribute: Number of holes drilled

Field Location/Name: assessmt.dbf / HOLES

Prospecting — 4 Characters

Constraints:

PROS	Prospecting	Hectares

Data entry: Click on the field with the mouse and dragged down the list until the appropriate type is highlighted then release the mouse.

Field Location/Name: assessmt.dbf / PROSPECT

Amount — 3 Characters

Attribute: Amount of work done in appropriate units.

Field Location/Name: assessmt.dbf / AMT_PROS

Physical — 4 Characters

Constraints:

PHYS	General	
STAK	Staking	Units
GRID	Grid lines	Kilometres
LSUR	Legal surveys	Kilometres
USUR	Underground surveys	Metres
TREN	Trenching	Metres
PITS	Pitting	Number
STRI	Stripping	Hectares
SLUC	Sluicing/Panning	
TOPO	Topographic	Hectares
ROAD	Road access	Kilometres
RAIL	Railway	Kilometres
TRAM	Tram lines	Kilometres
TRAL	Trail	Kilometres
FEAS	Feasibility	
UNDV	Underground development	Metres
MINE	Mining production	
MILL	Mill Construction	
RECL	Reclamation	Hectares
RHAB	Rehabilitation	

Data entry: Click on the field with the mouse and dragged down the list until the appropriate type is highlighted then release the mouse.

Field Location/Name: assessmt.dbf / PHYSICAL

Amount — 6 Characters

Attribute: Amount of work done in appropriate units.

Field Location/Name assessmt.dbf / AMT_PHYS

PULL DOWN SCREEN *Sketches*

This screen is part of possible future development but as yet has not been tested. Data can only be entered via the clipboard with the application running unders the Windows platform.

Prospect

Attribute	Name of the prospect being documented.
Data entry	This field is automatically filled when a new record is started.

Title 45 Characters

Attribute	Some title describing the sketch.
Field Location/Name	sketch.dbf / TITLE

Author 20 Characters

Attribute	Name of the person who made the original sketch.
Field Location/Name	sketch.dbf / AUTHOR

Sequence # 4 Characters

Attribute	An arbitrary number denoting the order in which sketches appear.
Field Location/Name	sketch.dbf / SEQ_NO

Sketch

Attribute	Some sketch imported as a Windows bitmap.
Comments	Graphic data that has been scanned can be entered into this field via the Windows clipboard.
Field Location/Name	sketch.dbf / SKETCH

PULL DOWN SCREEN *Geochronology*

This screen has been added in order to increase the data compatibility between this application and the BC Minfile application.

Prospect
- Attribute: Name of the prospect being documented.
- Data entry: This field is automatically filled when a new record is started.

Sequence #
- 4 Characters
- Attribute: An arbitrary number denoting the order in which sketches appear.
- Field Location/Name: geochron.dbf / SEQ_NO

Stratigraphic Age
- 20 Characters
- Attribute: The stratigraphic age in terms of era, period or epoch of the rock hosting the mineralization.
- Constraints: Presently the permitted terms are set to the same options as in the EPOCH field on the main data entry screens.
- Field Location/Name: geochron.dbf / STRAT_AGE

Isotopic Age
- 20 Characters
- Attribute: The isotopically determined age of the host rock in millions of years with the associated errors.
- Field Location/Name: geochron.dbf / ISOTOPIC

Material
- 20 Characters
- Attribute: The type of material used in the dating procedure. This can be a rock, a specific mineral, or a fossil.
- Field Location/Name: geochron.dbf / MINERAL

Dating Method
- 10 Characters
- Attribute: The specific isotopic method used to obtain the geochronological age.
- Constraints:
  - FOSSIL
  - FISSION TRACK
  - CARBON
  - K/Ar
  - Nd/Sm
  - Pb/Pb
  - Rb/Sr
  - U/Pb

	U/U	
Field Location/Name	geochron	/ DATE_METH

Comments

Attribute	Unlimited A full reference as to the source of the age determination is to be included. Comments on how the result pertains to the mineralization can also be included.	
Field Location/Name	geochron.dbf	/ COMMENTS

DIGITAL PROSPECTOR

APPENDIX

B

GLOSSARIES

GLOSSARY 1

COMMODITY GLOSSARY

The following list contains all the commodities of potential economic interest that have been entered into the dictionary. Entries in the main screen, the reserve pull down screen, and the production pull down screen are checked against this list.

Ag
Al
As
Au
B
Ba
Be
Bi
Ca
Cd
Co
Cr
Cs
Cu
Fe
HREE
Hg
Ir
LREE
La
Li
Mg
Mn
Mo
Nb
Ni
Os
P
Pb
Pd
Pt
Rb
Rh
S
Sb
Sc
Se
Si
Sn
Sr
Ta
Te
Th
Ti
U
V
W
Y
Zn
Zr
AGGREGATE
ALUMINA
ANHYDRITE
ASBESTOS
ATTAPULGITE
BARITE
BAUXITE
BENTONITE
BORATE
CALCITE
CLAY
CORUNDUM
DIAMOND
DIATOMITE
DIMENSION STONE
FELDSPAR
FLUORITE
GARNET
GRANITE
GRAPHITE
GRAVEL
GYPSUM
KAOLIN
KAOLINITE
KYANITE
LIME
LIMESTONE
MARBLE
MARL
MICA
MONTMORILLONITE
MURRAM
NEPHELINE
OLIVINE
PERLITE
POTASH
PUMICE
PYROPHYLLITE
QUARTZ
SALT
SAND
SANDSTONE
SILICA
SLATE
SMECTITE
TALC
TITANIA
VERMICULITE
WOLLASTONITE
ZEOLITE
ZIRCON

GLOSSARY 2

RECOMMENDED LITHOLOGICAL TERMINOLOGY

Key to relative status of terms in the lithology field:–

Basic Term
Approved Specific Term
Loosely Applied Term

CLASS	GROUP	LITHOLOGY
INTRUSIVE		
	QUARTZ RICH	
		Quartzolite
		Silexite
		Quartz–rich Granitoids
	QUARTZ–FELDSPAR	
		Alkali–feldspar Granite
		Quartz Syenite
		Alaskite
		Granite
		Granodiorite
		Tonalite
		Trondhjemite
		Porphyry
		Aplite
		Felsite
		Pegmatite
	FELDSPAR	
		Alkali–feldspar Syenite
		Syenite
		Lamproite
		Larvikite
		Lusitanite
		Monzonite
		Monzodiorite

Monzogabbro
Quartz Diorite
Diorite
Gabbro
Norite
Troctolite
Gabbronorite
Anorthosite
Chromitite
Magnetitite
Dolerite
Diabase
Mafic Dyke
Trap

FELDSPAR–FOID

Monzosyenite
Essexite
Theralite
Teschenite
Nepheline Syenite

FOID

Foidolite
Malignite
Shonkinite
Melteigite
Ijolite
Juvite
Urtite
Missourite
Fergusite
Italite

ULTRAMAFIC

Peridotite
Dunite
Harzburgite
Lherzolite
Wehrlite
Pyroxenite
Orthopyroxenite
Enstatitite
Bronzitite
Hypersthenite
Websterite

Clinopyroxenite
Diopsidite
Diallagite
Hornblendite

CHARNOCKITE

Charnockite
Farsundite
Opdalite
Enderbite
Mangerite
Jotunite

LAMPROPHYRE

Lamprophyre

CARBONATITE/KIMBERLITE

Carbonatite
Alvikite
Sovite
Beforsite
Kimberlite
Eclogite

VOLCANIC

FELSIC

Alkali–feldspar Rhyolite
Rhyolite
Liparite
Peralkaline Rhyolite
Albitite
Rhyodacite

INTERMEDIATE

Dacite
Andesite
Latite

MAFIC

Basalt
Trachybasalt
Hawaiite
Trachyandesite
Mugearite

Tholeiite
Komatiite
Amphibolite

ULTRAMAFIC

Komatiite
Peridotite
Ultramafitite
Melilitite
Ankaramite

FELDSPATHOIDAL

Phonolite
Tephrite
Basanite
Foidite
Nephelinite
Leucitite
Analcimite

ALKALIC

Trachyte
Latite
Keratophyre
Ash[13]
Agglomerate
Glass
Obsidian
Flow
Tuff
Lapilli tuff
Lapilli
Tuff-breccia
Blocky-tuff
Breccia
Mill-rock
Hyaloclastite
Ignimbrite
Lahar
Mud-flow
Exhalite
Tuffite

---

13 Textural names can be related to any group in the absence of a more formal name based on composition.

Tuffwacke
Greenstone

SEDIMENTARY

EPICLASTIC

Conglomerate
Tillite
Sandstone
Grit
Arenite
Arkose
Litharenite
Calcarenite
Wacke
Greywacke
Volcaniclastic
Mudstone
Pelite
Siltstone
Greensand
Claystone
Shale
Argillite
Turbidite
Calcirudite
Greenstone

CARBONATE

Limestone
Dolomite
Dolostone
Phosphorite[14]

SILICEOUS/FERRUGINOUS SEDIMENTS

Diatomite
Chalcedony
Novaculite
Chert
Jasper
Ironstone
Banded Iron Formation
Jaspilite

---

14 Loosely associated with carbonate rocks.

Exhalite
Taconite
Bog Iron

EVAPORITE

Anhydrite
Gypsum
Salt
Potash
Travertine
Tourmalinite[15]

CARBONACEOUS

Peat
Coal
Lignite
Anthracite
Saprolith
Torbanite

UNCONSOLIDATED

Talus
Till
Esker
Gravel
Sand
Silt
Mud
Clay
Marl

METAMORPHIC

FOLIATE

Fels
Granulite
Granofels
Hornfels
Quartzite
Marble
Garnetite

---

15 Non Genetic term but grouped here for convenience

GNEISS

Gneiss
Paragneiss
Orthogneiss

SCHIST

Schist
Slate
Phyllite

MIGMATITE

Metatexite
Diatexite
Lit–par–lit Gneiss

Amphibolite
Charnockite
Eclogite
Jadeitite

METASOMATIC

ALTERATION/REPLACEMENT

Fenite
Serpentinite
Rodingite
Steatite
Skarn
Jade
Vein
Soapstone
Listwanite
Green–carbonate
Greisen
Bentonite
Tourmalite
Jasperoid

CATACLASTIC

FRIABLE

Breccia
Gouge

INDURATED

Microbreccia
Cataclasite
Protomylonite
Mylonite
Ultramylonite

RECRYSTALLIZED

Schist
Blastomylonite
Pseudotachylite

SURFICIAL

RESIDUAL

Laterite
Bauxite
Kaolin
Hard-pan
Calcrete
Ferricrete
Gossan

GLOSSARY 3

SUGGESTED LITHOLOGICAL MODIFIERS

In order to be able to carry out searches it is important to standardize and minimize the number of terms used to modify a rock type. No dictionary has been created for this field and it is recommended that this list be kept up to date.

MINERAL
Analcime
Biotite
Carbonate
Chlorite
Feldspar
Garnet
Graphitic
Hauyne
Hornblende
Leucite
Magnetite
Nepheline
Olivine
Pyrite
Pyroxene
Quartz
Sericire
Sulphide
Tourmaline
Plag
Foid
Mela
Leuco
Felsic
Mafic

CHEMICAL
Alkaline
Alkali
Calc–alkaline
Calc–alkalic
Fe Tholeiitic
Mg Tholeiitic
Melilitic
Tholeiitic

PETROLOGIC
Basaltic
Granitic
Komatiitic
Tephritic
Phonolitic
Siliceous
Spilitic

SEDIMENTARY
Lithic
Feldspathic
Conglomeratic
Arenaceous
Argillaceous
Arkosic
Quartzose
Calcareous
Dolomitic
Siliceous
Ferruginous
Pyritic
Cherty
Sideritic
Hematitic
Magnetitic
Graphitic

METAMORPHIC
Meta
Ortho
Para
Gneissic
Metamorphosed

CATACLASTIC
Black Line
Breccia
Fault
Flaser
Mylonite
Recemented
Schistose

TEXTURAL
Agmatitic
Altered
Amygdaloidal
Breccia
Conglomerate
Crystal
Cumulate
Dyke

Exhalitive
Flow
Fragmental
Graded
Hyaloclastite
Ignimbrite
Lahar
Lapilli
Lapilli tuff
Mud–flow
Pillow
Porphyritic
Pyroclastic
Spinifex
Stockwork
Tuff
Tuff–breccia
Variolitic

TYPES

Keweenawan
Matachewan
Nipissing
Timiskaming

GLOSSARY 4

MINERALS

N.B. this list includes economic and alteration minerals entered in the dictionary and is used to check entries in both the mineralogy and alteration browse windows on the main screens.

ACTINOLITE
ADULARIA
AEGIRINE
ALBITE
ALUNITE
AMPHIBOLE
ANALCIME
ANHYDRITE
ANKERITE
ANTHOPHYLLITE
ANTIGORITE
APATITE
ARFVEDSONITE
ARGENTITE
ARSENIC
ARSENOPYRITE
ASBESTOS
AXENITE
AZURITE
BARITE
BERTHIERITE
BIOTITE
BISMUTH
BISMUTHINITE
BORNITE
BRUCITE
CALCITE
CARBONATE
CHALCEDONY
CHALCOCITE
CHALCOPYRITE
CHLORITE
CHLORITOID
CHROMITE
CHRYSOTILE
CLINOPYROXENE
CLINOZOISITE
COBALTITE
COPPER
COVELLITE
CUPRITE
DIOPSIDE
DOLOMITE
ELECTRUM
EPIDOTE
EUXENITE
FELDSPAR
FELSIC
FLUORITE
FOID
FUCHSITE
GALENA
GARNET
GOETHITE
GOLD
GRAPHITE
GROSSULARITE
GUMITE
HAUYNE
HEMATITE
HORNBLENDE
IDOCRASE
ILMENITE
JAROSITE
K-SPAR
KAOLINITE
LEUCITE
LEUCO
LEUCOXENE
LIMONITE
LIZARDITE
MAFIC
MAGNESITE
MAGNETITE
MALACHITE
MANGANITE
MARCASITE
MARIPOSITE
MELA
MERCURY
MICROCLINE
MILLERITE
MINNESOTAITE
MOLYBDENITE
MONAZITE
MUSCOVITE
NEPHELINE
OLIVINE
OPAL
ORTHOCLASE
PARAGONITE
PECTOLITE
PENTLANDITE
PEROVSKITE
PHLOGOPITE
PITCHBLENDE
PLAGIOCLASE
PREHNITE
PROUSTITE
PUMPELLYITE
PYRITE
PYROCHLORE
PYROLUSITE
PYROXENE
PYRRHOTITE

QUARTZ
RIEBECKITE
SCHEELITE
SERICITE
SERPENTINE
SIDERITE
SILVER
SPECULARITE
SPHALERITE
SPHENE
STIBNITE
SULPHIDES
TALC
TELLURIDE
TENNANTITE
TETRADYMITE
TETRAHEDRITE
TOPAZ
TOURMALINE
TREMOLITE
URANINITE
VERMICULITE
VESUVIANITE
VIOLARITE
WOLLASTONITE
ZEOLITE
ZINNWALDITE
ZOISITE

GLOSSARY 5

ALTERATION MINERALOGY VS ALTERATION TYPE

Alteration Type	Alteration Mineralogy
Albitic	Albite + Paragonite, Chlorite, Quartz + Orthoclase, Ankerite.
Argillic	Kaolinite clays + Sericite, Quartz, Alunite, Pyrite, Tourmaline, Topaz, Zunyite.
Alunitic	Alunite, Quartz (Chalcedony, Cristobalite, Tridymite, Opal) + Kaolinite, Sericite, Diaspore, Barite, Jarosite, Rutile, Zunyite, Pyrite, Hematite.
Biotitic	Biotite.
Carbonate	Calcite or Dolomite or Ankerite or Siderite.
Chloritic	Chlorite + Sericite, Quartz, Pyrite.
Deuteric	Various minerals in late stage Silicification, Albitization, Tourmalinization and Greisenization.
Fenitic	Feldspathoids, K–Spar, Albite, Aegirine, Riebeckite, Arfvedsonite.
Graphitic	Graphite
Greisen	Tourmaline, Topaz, Muscovite, Zinnwaldite, Fluorite, Albite, K–Spar + Kaolinite.
Hematitic	Hematite.
Leaching	Soluble minerals removed.
Listwanite	Quartz, Carbonate, Fuchsite or Mariposite, Limonite, Magnesite
Oxidation	Magnetite, Limonite, Specularite, Hematite (Gossan).
Phyllic	Sericite, chlorite

Potassic	Adularia, Orthoclase, Microcline, Biotite or Chlorite, Sericite + Quartz + Albite, Anhydrite, Carbonate, Apatite.
Propylitic	Epidote, Chlorite, Zoisite, Sericite, Carbonate, Pyrite + Albite, K–Spar + Hematite, Jarosite, Goethite.
Pyritic	Pyrite
Rodingitization	Grossularite, Diopside + Idocrase, Clinozoisite, Vesuvianite, Chlorite, Prehnite, Serpentine.
Saussuritization	Epidote + Chlorite, Sericite.
Sericitic	Sericite, Quartz + Pyrite.
Serpentinization	Serpentine + Chrysotile, Brucite, Talc, Magnetite, Magnesite.
Silicification	Quartz, Chalcedony or Opal.
Skarn	Garnet, Epidote, Clinozoisite, Clinopyroxene, Idocrase, Wollastonite, Actinolite –Tremolite, Biotite–Phlogopite, Chlorite, K–Spar, Plagioclase.
Steatization	Talc + Chlorite, Dolomite, Tremolite, Anthophyllite, Antigorite, Serpentine, Magnesite, Magnetite, Chromite.
Supergene	Malchite, Azurite
Tourmalinization	Tourmaline.
Zeolitic	Zeolite + Adularia, Prehnite, Pumpellyite + Epidote, Albite, Carbonate.

DIGITAL PROSPECTOR

APPENDIX

C

INSTALLATION OF THE DIGITAL PROSPECTOR

INSTALLATION

First time steps are 1 to 14 inclusive
To routinely start the application thereafter steps 15 onwards

1) Change the CONFIG.SYS file so FILES = 120

2) When using the DOS version of FoxPro, if the term NOEMS exists in CONFIG.SYS in a line setting the device to EMM386, this has to be changed as it is incompatible with the DOS extended version of FoxPro. Use a value such as 8000 if your system has 8 mb of RAM. Suprisingly if the line is omitted the program still works but Windows may not.

3) Include FoxPro in the path command of AUTOEXEC.BAT if you want the program to initiate from any directory but this is not necessary.

4) Make a new directory \PROSPECT with five subdirectories. It does not matter what drive the directory is located in, but the C drive will be used as an example.
   C:\PROSPECT\PROGS
   C:\PROSPECT\SCREENS
   C:\PROSPECT\MENUS
   C:\PROSPECT\REPORTS
   C:\PROSPECT\QUERIES

5) Copy files from the five different "PROSPECT" subdirectories on disk #1 into the appropriate subdirectories in C:\PROSPECT

6) Copy the main project and application files into the C:\PROSPECT directory from disk #2

7) Copy all the database files plus dictionaries, plus user files into a directory of any name from disks #3, i.e. all .DBF .FPT .CDX files (database file, foxpro text file, index file)

8) Start the extended version of FoxPro for DOS, (FOXPROX.EXE). The application will not run in the standard version. The software will automatically check the available memory and start the extended version if the command "FOX" is typed in.

11) At the COMMAND WINDOW build the application by typing:–
"SET DEFAULT TO C:\PROSPECT" (ENTER)
"BUILD APP PROSPECT FROM PROSPECT " (ENTER)
This can also be done by opening the PROSPECT project file in Foxpro and selecting the build button.

12) Set up the printer. This can also be done inside the application. Either from the top menu bar and pick:– FILE – PRINTER SET UP – CHANGE PRINTER TO – then select the

appropriate port name e.g. LTP1. Alternatively the printer can be selected by typing in the command window "SET PRINTER TO LPT1"

On some printers the Printer Driver also has to be changed to adjust margins, condensed print, lines/inch, etc.

13) Change the colour of the INACTIVE OPTIONS because some screens use this colour to display data. From the main menu pick:- WINDOW - COLOUR - #10 DSABL'D CTRL, then pick a better colour contrast from the palette. Similarly with shadow #8 so text can be read in the shadow. This can be automatically set in the "config.fp" file when starting the software

14) Set the formate for the display and entry of date "SET DATE TO ANSI". This can be automatically set in the "config.fp" file when starting the software

15) Start the application by typing "DO PROSPECT" in the command window. Or by picking the following from the pull down menus RUN - APPLICATIONS - PROSPECT.APP from the PROSPECT directory.

16) Initial data displayed on the screen is an assortment from various different prospects. To organise this pick <LIST> from the bottom menu, then select a deposit with the dark blue highlight bar, then close this screen by clicking on the yellow square button on the top left of the window. This will return to the main screen with data for the selected mineral prospect.

Special Keys

Enter	To enter browse screens in order to enter data after high-lighting a record
Tab	Moves to next field
Shft-Tab	Moves to previous field
Page Up	1) On a single field this key will move to previous page. 2) In editing a memo field or browse window this key will flip back the equivalent of one viewing window.
Page Dn	1) On a single field this key will move to the next page. 2) In editing a memo field or browse this key will flip forward the equivalent of one viewing window.
Alt_F1	FoxPro help file.
Alt-M	Main Menu

Alt –P	Prints extended report
Ctrl–W	Returns to Page 1 one the main screen
Ctrl_F1	Scrolls through the main screens (SOMETIMES its temperamental!)
Ctrl-X	Cut text to clipboard
Ctrl-C	Copy text to clipboard
Ctrl-V	Insert text from clipboard
Ctrl-N	Add new record

PROBLEMS

DATA

NEW PROSPECT	IT IS VERY IMPORTANT WHEN STARTING A NEW PROSPECT FILE TO ENTER THE LOCAL # FIRST. This field is the linking field to all satelite tables. If this is not done first the data entered in all the fields will not be properly connected and hence lost.
MISMATCH	When this message comes up in purple on the top right of the screen it is usually associated with a fresh pop–up screen which also appears. Activate the pop–up screen to peruse the acceptable terms.
CAN'T ADD DATA	This occurs only in the pale grey browse windows which are read only windows. To add data highlight a line with the mouse then press "enter" in order to activate the read/write window then select BROWSE from top menu then ADD DATA or Ctrl-N.
DATA NOT SAVED	When new data is added in a browse window remember to press "SAVE" on the bottom menu before exiting the window, or the close button. If you press escape the data is lost.
DATA ORDER	The order of the data in the browse windows is controlled by the "SEQ_NO". A lower sequence number result in a higher ranking. Normally increments of 5 are typically used to permit insertion of data later.

EDITING

BROWSE WINDOWS

Can't register any changes to data:– Press ENTER to access the true BROWSE WINDOW

CAN'T DELETE RECORD

When trying to delete a record in a browse window using the toggle delete option under BROWSE pull down menu the message "NON UNIQUE SEQ_NO" keeps appearing. Either empty all fields before selecting toggle delete, or repeatedly select the OPPS! key. Be warned the second option can result on all editorial changes made to the prospect description being lost if the key is selected too fast repeatdly Both option flag the data for deletion and the files have to be packed outside of the application..

REPORTS

REPORT NOT FOUND

This message may appear when the application and the database are not stored on the same drive. If this happens the full path to the directory where the report program is stored has to be entered in the menu. To do this requires the menu program to be modified and the whole application has to be rebuilt.

PRINTING STARTS MID PAGE

This may be a result of a previous setting not being reset. Re-initialize the PRINTER DRIVER by selecting FILE – PRINTER SETUP – PRINTER DRIVER SETUP – NONE.

COMMODITY NOT PRINTED

If the group field is only filled in without a specific commodity being entered in the commodity field, the printed report will not print the line.

BOMBS WHEN PRINTING REPORTS THAT REQUIRE A LISTING OF REFERENCES OR ASSESSMENT WORK.

The message "data out of range" is displayed. This stems from inconsistencies in the abbreviations between the linking field Publication No or "SOURCE" in the tables REFS.DBF and REF_SOUR.DBF - or - inconsistencies is the abbreviations between the linking field "FILE_NO" in the databases ASSES_NO.DBF and ASSESSMT.DBF. This can be rectified by editing the tables to remove the inconsistencies. CANCEL THE APPLICATION AND CLOSE THE SOFTWARE THEN RESTART.

SCREENS

SCROLLING SCREENS

In order to scroll through the main screens for an prospect you must be in the EDIT MODE

PULL DOWN SCREENS	In order to pull down screen on visits etc. you must not be in the EDIT MODE for the main screen.
CAN'T EXIT PULL DOWN SCREEN	After entering or editing data on a pull down screen the data must be saved by clicking on save then close in the bottom menu.
REFERENCES & ASSESSMENT FILES	To look at all the applicable references for an prospect when in either the reference or assessment pull down screens, click on "list".
CONFLICTS	When trying to run the application under FoxPro 2.5 for Windows and when Wordperfect for windows is also running, temporary files with the same name are created which causes Windows to crash.

UP-DATED FILE STRUCTURE FROM THE FIRST VERSION RELEASED IN OFR 5872

FILES

A number of files have been changed since the initial version of the Digital Prospector was released (Fumerton et al., 1993). These changes were largely an increase in the size of some data fields to accomadate problems encountered. Additional fields have also been added to make the application more universily acceptable and compatible in its data structure with the BC Minfile. The changes have been made to the following files:-

MINFILE.DBF
ASSESS_NO.DBF
ASSESSMT.DBF
COMMODIT.DBF
REF_SOUR.DBF
REFS.DBF

The fields that have been modified are marked in the following table which shows the structure of the individual data files.

In addition to these changes two additional files have been added which are:-

GEOCHRON.DBF
SKETCH.DBF

STRUCTURE OF INDIVIDUAL DATA FILES

Structure for table: d:\.. ..\alteratn.dbf
Number of data records: 787
Date of last update: 94/09/28

Field	Field Name	Type	Width	Dec	Index	
1	LOCAL_NO		Character		9	1 Asc
2	SEQ_NO		Numeric		4	2 Asc
3	MINERAL		Character		16	
4	TYPE		Character		20	
5	HABIT		Character		12	
6	INTENSITY		Character		6	
** Total **					68	

Structure for table: c:\.. ..\assays.dbf
Number of data records: 620
Date of last update: 94/09/16
Memo file block size: 64

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1Asc
2	SEQ_NO	Numeric	5		
3	ASAMPLE_NO	Character	6		3Asc
4	A_SOURCE	Character	15		
5	A_YEAR	Character	4		2Asc
6	A_TYPE	Character	10		
7	A_UTM_ZONE	Numeric	2		
8	A_EASTING	Numeric	6		
9	A_NORTHING	Numeric	7		
10	A_LAB	Character	15		
11	A_DESCRIPT	Memo	10		
12	A_ROCK	Character	25		
13	A_AU	Numeric	7	3	
14	A_AG	Numeric	7	3	
15	A_PT	Numeric	6	3	
16	A_PD	Numeric	6	3	
17	A_AS	Numeric	7	4	
18	A_CD	Numeric	7	4	
19	A_CO	Numeric	7	4	
20	A_CR	Numeric	7	4	
21	A_CU	Numeric	7	4	
22	A_MO	Numeric	7	4	
23	A_NI	Numeric	7	4	

24	A_PB	Numeric	7	4
25	A_SB	Numeric	7	4
26	A_U	Numeric	7	4
27	A_ZN	Numeric	7	4
Total			218	

Structure for table: c:\.. ..\asses_no.dbf
Number of data records: 1071
Date of last update: 94/09/17

Field	Field Name	Type	Width	Dec	Index	
1	LOCAL_NO	Character	9		1 Asc	
2	FILE_NO	Character	10		2 Asc	*** [16]
Total			20			

Structure for table: c:\.. ..\assessmt.dbf
Number of data records: 1161
Date of last update: 94/09/15

Field	Field Name	Type	Width	Dec	Index	
1	FILE_NO	Character	10		1 Asc	***
2	AFRI	Character	15			***
3	COMPANY	Character	25		3 Asc	***
4	YEAR	Numeric	4		2 Asc	
5	GEOLOGY	Character	4			
6	AMT_GEOL	Numeric	5			***
7	GEOPHYSIC	Character	4			
8	AMT_GEOPH	Numeric	4			
9	GEOCHEM	Character	4			
10	AMT_GEOCH	Numeric	4			
11	DRILLING	Character	4			
12	METERAG	Numeric	5			
13	HOLES	Numeric	3			
14	PROSPECT	Character	4			
15	AMT_PROS	Numeric	3			
16	PHYSICAL	Character	4			
17	AMT_PHYS	Numeric	6	1		
Total			109			

[16] File structure change since Fumerton *et al.*, 1993, (OFR 5872)

Structure for table: c:\.. ..\classifn.dbf
Number of data records: 550
Date of last update: 94/09/28

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc
2	SEQ_NO	Numeric	4		2 Asc
3	DEP_CHARC	Character	15		
4	DEP_CLASF	Character	15		
Total			44		

Structure for table: c:\.. ..\commodit.dbf
Number of data records: 702
Date of last update: 93/09/28

Field	Field Name	Type	Width	Dec	Index	
1	LOCAL_NO	Character	9		1 Asc	
2	SEQ_NO	Numeric	4		2 Asc	
3	CLASS	Character	12			
4	GROUP	Character	15			
5	COMMODITY	Character	20			***
6	GRADE	Numeric	5	2		
Total			66			

Structure for table: c:\.. ..\dict_roc.dbf
Number of data records: 248
Date of last update: 94/08/11

Field	Field Name	Type	Width	Dec	Index
1	CLASS	Character	14		
2	GROUP	Character	35		
3	LITHOLOGY	Character	28		
4	SEQ_NO	Numeric	5		
Total			83		

Structure for table: c:\.. ..\geochron.dbf
Number of data records: 5
Date of last update: 94/08/09

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc
2	SEQ_NO	Numeric	4		2 Asc
3	STRAT_AGE	Character	20		
4	ISOTOPE	Character	20		
5	MINERAL	Character	20		
6	DATE_METH	Character	11		
7	COMMENTS	Memo	10		
Total			94		

Structure for table: c:\.. ..\minerals.dbf
Number of data records: 1200
Date of last update: 94/09/28

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc
2	SEQ_NO	Numeric	4		2 Asc
3	MINERAL	Character	15		
4	PRINCIPLE	Logical	1		
Total			30		

Structure for table: c:\.. ..\minfile.dbf
Number of data records: 436
Date of last update: 94/09/28
Memo file block size: 64

Field	Field Name	Type	Width	Dec	Index	
1	LOCAL_NO	Character	9		Asc	
2	MDI_NO	Character	7			
3	NMI_NO	Character	10			
4	STATUS	Character	13			
5	OWNER	Character	25			
6	NTS	Character	6			
7	LAT_DEG_N	Numeric	3			***
8	LAT_MIN	Numeric	5	2		
9	LONG_DEG_W	Numeric	4			***
10	LONG_MIN	Numeric	5	2		
11	UTM_ZONE	Numeric	2			
12	EASTING	Numeric	6			
13	NORTHING	Numeric	7			
14	POINT	Memo	10			
15	LOCN_METH	Character	10			
16	MIN_DIV	Character	20			
17	TWP_AREA	Character	30			
18	CLM_MAP_NO	Character	6			
19	CODED	Date	8			
20	GEOLOGIST1	Character	4			
21	REVISED	Date	8			
22	GEOLOGIST2	Character	4			
23	VISITED	Logical	1			
24	DCL_HOLES	Logical	1			
25	PRODUCTION	Logical	1			
26	RESERVES	Logical	1			
27	ACCESS	Memo	10			
28	EXPL_HIST	Memo	10			
29	ERA	Character	17			
30	EPOCH	Character	25			
31	PROVINCE	Character	12			

32	SUBPROV	Character	40		
33	TERRAIN	Character	20		
34	ASSEM_GRP	Character	25		
35	FORMATION	Character	20		
36	META_TYPE	Character	10		
37	META_RELN	Character	12		
38	META_GRAD	Character	15		
39	DESCRIP	Memo	10		
40	STRU_DESC	Memo	10		
41	SHAPE	Character	12		
42	LENGTH	Numeric	4		
43	THICKNESS	Numeric	6	2	
44	DEPTH	Numeric	6	1	
45	OPEN	Logical	1		
46	STRIKE	Numeric	3		
47	DIP	Numeric	2		
48	PLUNGE	Numeric	2		
49	AZIMUTH	Numeric	3		
50	ORE_DESCRP	Memo	10		
51	ASSAYS	Logical	1		
52	GEOCHEMS	Logical	1		
53	PROV_STATE	Character	30		***
54	GEOCHRON	Logical	1		***
55	SKETCH	Logical	1		***
Total			526		

Structure for table: c:\.. ..\name.dbf
Number of data records: 951
Date of last update: 94/09/28

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc
2	SEQ_NO	Numeric	4		2 Asc
3	NAME	Character	40		
4	CIRCA	Character	4		
Total			58		

Structure for table: c:\.. ..\product.dbf
Number of data records: 74
Date of last update: 94/09/08
Memo file block size: 64

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc
2	PNAME	Character	20		
3	PYEAR	Numeric	4		2 Asc
4	PTONNES	Numeric	10		

5	PCOMMOD_1	Character	8
6	PMASS_OF_1	Numeric	9
7	PCOMMOD_2	Character	8
8	PMASS_OF_2	Numeric	9
9	PCOMMOD_3	Character	8
10	PMASS_OF_3	Numeric	9
11	PCOMMOD_4	Character	8
12	PMASS_OF_4	Numeric	9
13	PCREDITS	Character	24
14	PDEPTH	Numeric	4
15	PMINE_METH	Character	20
16	PMIL_CAPCI	Numeric	5
17	PCOMMENT	Memo	10
Total			175

Structure for table: c:\.. ..\promfile.dbf
Number of data records: 581
Date of last update 94/09/28

Field	Field Name	Type	Width	Dec	Index
1	PRMPT	Character	10		
2	DESCRIP	Character	25		
3	PRMPT_NO	Numeric	4		
Total			40		

Structure for table: c:\.. ..\ref_sour.dbf
Number of data records: 1243
Date of last update 94/09/28

Field	Field Name	Type	Width	Dec	Index	
1	LOCAL_NO	Character	9		1Asc	
2	SOURCE	Character	15		2Asc	***
Total			25			

Structure for table: c:\.. ..\refs.dbf
Number of data records: 136
Date of last update: 94/09/28
Memo file block size: 33

Field	Field Name	Type	Width	Dec	Index	
1	SOURCE	Character	15			***
2	AUTHOR	Character	15		1 Asc	
3	INITIAL_1	Character	4		2 Asc	***
4	AUTHOR_2	Character	15		3 Asc	
5	INITIAL_2	Character	4			***

6	YEAR	Numeric	4		4 Asc
7	TITLE	Memo	10		
8	PUBLICATIO	Memo	10		
Total			78		

Structure for table: c:\.. ..\replist.dbf
Number of data records: 8
Date of last update: 94/04/29
Memo file block size: 64

Field	Field Name	Type	Width	Dec	Index	
1	REPORTNAME	Character	25			***
2	REPORTPGM	Character	35			***
3	CONTENTS	Character	30			***
4	FORSW	Logical	1			***
5	OUTFILENM	Character	35			***
6	MODTYPE	Character	12			***
7	NOTES	Memo	10			
Total			149			

Structure for table: c:\.. ..\reserves.dbf
Number of data records: 73
Date of last update: 93/09/27
Memo file block size: 512

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc
2	RORE_ZONE	Character	15		
3	RCATEGORY	Character	15		
4	RYEAR	Numeric	4		2 Asc
5	RTONNES	Numeric	10		
6	RCOMMOD_1	Character	10		
7	RGRADE_1	Float	5	2	
8	RCOMMOD_2	Character	10		
9	RGRADE_2	Float	5	2	
10	RCOMMOD_3	Character	10		
11	RGRADE_3	Float	5	2	
12	RCOMMENTS	Memo	10		
Total			109		

Structure for table: c:\.. ..\rocks.dbf
Number of data records: 1065
Date of last update: 94/09/28

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc

2	SEQ_NO	Numeric	4		2 Asc
3	CLASS	Character	14		
4	GROUP	Character	35		
5	LITHOLOGY	Character	28		
6	MODIFIER	Character	35		
7	HOST	Logical	1		
8	ABUNDANCE	Numeric	2		
Total			129		

Structure for table: c:\.. ..\sketch.dbf
Number of data records: 0
Date of last update: 94/10/04
Memo file block size: 64

Field	Field Name	Type	Width	Dec	Index	
1	LOCAL_NO	Character	9		1 Asc	***
2	SEQ_NO	Numeric	4		2 Asc	***
3	TITLE	Character	45			***
4	AUTHOR	Charcter	20			***
5	COMMENT	General	10			***
Total			89			

Structure for table: c:\.. ..\structur.dbf
Number of data records: 502
Date of last update: 94/09/28

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc
2	SEQ_NO	Numeric	4		2 Asc
3	STRUCTURE	Character	15		
Total			29		

Structure for table: c:\.. ..\visits.dbf
Number of data records: 284
Date of last update: 94/09/15
Memo file block size: 64

Field	Field Name	Type	Width	Dec	Index
1	LOCAL_NO	Character	9		1 Asc
2	SEQ_NO	Numeric	4		
3	V_DATE	Date	8		2 Asc
4	V_GEOLOGIS	Character	15		
5	V_COMMENTS	Memo	10		
Total			47		

DIGITAL PROSPECTOR

APPENDIX

D

LIST OF FOXPRO® APPLICATION AND DATA FILES

```
Directory of   C:\PROSPECT
Subdirectories                  \MENUS
                                \PROGS
                                \QUERIES
                                \REPORTS
                                \SCREENS
PROSPECT   PJT     223693       94/10/04
PROSPECT   PJX     327104       94/10/04
PROSPECT   APP      18026       94/10/04
3 files          568,823  bytes

Directory of   C:\PROSPECT\MENUS
MAIN       MNT     23184       94/07/28
MAIN       MNX     22436       94/06/12
MAIN       MPR     57947       94/10/04
MAIN       MPX     18179       94/01/28
4 files          121,746  bytes

Directory of   C:\PROSPECT\PROGS
ADDLOCAL   PRG      1205       93/03/19
CHGDIR     PRG      1595       94/02/09
FIND_SEQ   PRG       909       94/02/07
FIND_SRC   PRG      1430       93/05/26
GETPRONM   PRG       544       94/02/03
OPENDBF    PRG      2888       94/02/09
PDSPTOT    PRG      1062       94/02/09
POPALT     PRG      2166       93/03/04
POPCLS     PRG      1494       93/03/04
POPCOM     PRG      2241       93/05/12
POPLIT     PRG      2042       93/03/04
POPMIN     PRG       803       93/03/16
POPMOD     PRG       808       93/03/03
POPSTR     PRG       810       93/03/04
PRAPPINT   PRG      2748       94/07/17
PRAPPNEW   PRG       991       93/03/16
PRREPLOC   PRG       559       93/03/16
PRTRTN     PRG       744       94/02/03
PTOTALS    PRG      1585       94/02/09
SEL_POP    PRG       710       93/03/15
SEQVALID   PRG        70       93/02/26
SETSETS    PRG      2888       94/01/28
STRIPEXT   PRG       932       91/07/25
```

TRAFICOP	PRG	7809	93/03/10 [17]
VALCOMOD	PRG	815	80/01/04
VALIDALT	PRG	625	93/03/04
VALIDCLS	PRG	635	93/03/03
VALIDCOM	PRG	525	93/03/16
VALIDLIT	PRG	625	93/03/04
VALIDMIN	PRG	661	93/03/16
VALIDNAM	PRG	318	93/03/16
VALIDSTR	PRG	644	93/03/03
34 files	43,311	bytes	

Directory of	C:\PROSPECT\QUERIES		
#_IND	QPR	185	94/02/09
#_IND	QPX	330	94/02/09
AREA	QPR	297	94/01/28
AREA	QPX	391	94/02/09
AU	QPR	344	94/01/28
AU	QPX	418	94/02/08
BASE	QPR	347	94/01/28
BASE	QPX	434	94/02/09
CONST	QPR	340	94/01/28
CONST	QPX	443	93/10/24
INDUST	QPR	338	94/01/28
INDUST	QPX	524	93/07/26
METAL	QPR	452	94/01/28
METAL	QPX	515	94/02/08
NAM_IND	QPR	194	94/01/28
NAM_IND	QPX	338	94/02/09
VISITS	QPR	284	94/01/28
VISITS	QPX	406	94/02/09
20 files	6,580	bytes	

Directory of	C:\PROSPECT\REPORTS		
ASSAYS	PRG	2305	94/02/04
ASSEHEAD	PRG	483	93/05/30
ASSESS	PRG	2026	94/02/04
ASYHEAD	PRG	267	93/05/24
ATOTALS	PRG	4803	94/02/04
ATOTHEAD	PRG	488	93/05/30
BIBHEAD	PRG	139	93/06/02
BIBLIO	PRG	1686	94/05/06

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[17] This program was modified by Griver (1992) from a program originally included in the FoxPro software.

BRIEFREF	PRG	2343	94/02/04
MAINRPT	PRG	17893	94/04/30
MINFHEAD	PRG	285	93/05/25
MINRPT	PRG	10815	94/04/30
PRODHEAD	PRG	262	93/05/29
PRODUCT	PRG	1886	94/02/04
PTOTHEAD	PRG	260	93/05/30
PTOTRPT	PRG	1245	94/02/04
REFERENC	PRG	2659	94/02/04
REFSHEAD	PRG	263	93/05/27
RESERVES	PRG	1757	94/02/04
RESVHEAD	PRG	265	93/05/31
VISIHEAD	PRG	272	93/05/27
VISITS	PRG	1226	94/02/03
24 files	53,628	bytes	

Directory of	C:\MINFILE\SCREENS		
ASSAYS	SCT	5127	94/05/09
ASSAYS	SCX	24942	94/05/09
ASSAYS	SPR	30447	94/07/28
ASSESS_N	SCT	3193	94/07/28
ASSESS_N	SCX	5546	94/07/28
ASSESS_N	SPR	29421	94/07/28
ASSESSME	SCT	10935	94/07/28
ASSESSME	SCX	18974	94/07/28
ASSESSME	SPR	30641	94/07/28
BCKGRND	SCT	960	93/10/30
BCKGRND	SCX	5173	93/10/30
BCKGRND	SPR	2513	94/07/28
BCKGRND	SPX	847	94/02/02
GEOCHRON	SCT	7109	94/05/09
GEOCHRON	SCX	10022	94/05/09
GEOCHRON	SPR	30123	94/07/28
MCONTROL	SCT	18659	94/02/07
MCONTROL	SCX	6665	94/01/28
MINFILE	SCT	7237	94/08/11
MINFILE	SCX	11887	94/08/11
MINFILE	SPR	60300	94/08/11
MINFILE2	SCT	4273	94/05/17
MINFILE2	SCX	14871	94/05/17
MINFILE2	SPR	5847	94/12/01
MINFILE2	SPX	2867	94/12/01
MINFILE3	SCT	2289	94/12/01
MINFILE3	SCX	12260	94/05/17
MINFILE3	SPR	5644	94/12/01

MINFILE4	SCT	6112	94/05/17
MINFILE4	SCX	8157	94/05/17
MINFILE4	SPR	10536	94/12/01
MINFILE5	SCT	2295	94/05/17
MINFILE5	SCX	7784	94/05/17
MINFILE5	SPR	8039	94/12/01
MINFILE6	SCT	3053	94/05/17
MINFILE6	SCX	20839	94/05/17
MINFILE6	SPR	6585	94/12/01
PRODUCT	SCT	4983	94/05/09
PRODUCT	SCX	19720	94/05/09
PRODUCT	SPR	30290	94/07/28
REF_SOUR	SCT	3112	94/06/16
REF_SOUR	SCX	5546	94/06/16
REF_SOUR	SPR	29422	94/07/28
REFERENC	SCT	2927	94/09/06
REFERENC	SCX	8530	94/09/06
REFERENC	SPR	28252	94/07/28
REPORTS	SCT	6235	94/04/30
REPORTS	SCX	7038	94/04/30
REPORTS	SPR	17001	94/07/28
REPORTS	SPX	5548	94/02/04
REPTLIST	SCT	4403	94/06/27
REPTLIST	SCX	5173	94/07/28
REPTLIST	SPR	8500	94/07/28
REPTLIST	SPX	6062	94/05/09
RESERVES	SCT	6850	94/05/09
RESERVES	SCX	11514	94/05/09
RESERVES	SPR	28998	94/07/28
SKETCH	SCT	2922	94/05/09
SKETCH	SCX	6665	94/05/09
SKETCH	SPR	29147	94/05/09
VISITS	SCT	2625	94/05/09
VISITS	SCX	5919	94/05/09
VISITS	SPR	27889	94/07/28
YESNO	SCT	1269	94/02/03
YESNO	SCX	4800	94/02/03
YESNO	SPR	4344	94/07/28
68 files	767,875	bytes	

Directory of minimum number database files

?:\ANY_DIR

ALTERATN	CDX	14336	94/09/28
ALTERATN	DBF	53742	94/10/05
ASSAYS	CDX	14848	94/09/16

ASSAYS	DBF	136058	94/09/16
ASSAYS	FPT	98944	94/09/16
ASSES_NO	CDX	15360	94/09/17
ASSES_NO	DBF	21518	94/09/17
ASSESSMT	CDX	20480	94/09/15
ASSESSMT	DBF	127127	94/09/15
CLASIFN	CDX	11264	94/09/28
CLASIFN	DBF	24363	94/09/28
COMMODIT	CDX	14336	94/09/28
COMMODIT	DBF	46558	94/09/28
DICT_ROC	CDX	9728	94/11/11
DICT_ROC	DBF	20746	94/11/11
GEOCHRON	CDX	3072	94/09/08
GEOCHRON	DBF	728	94/09/08
GEOCHRON	FPT	1088	94/09/08
MINERALS	CDX	17408	94/09/28
MINERALS	DBF	36162	94/09/28
MINFILE	CDX	6144	94/09/28
MINFILE	DBF	231130	94/10/05
MINFILE	FPT	1234944	94/10/05
MINRSRC	DBF	6622	94/10/05
MINRSRC	FPT	83840	94/10/05
MINUSER	DBF	18758	93/01/09
MINUSER	FPT	122736	93/01/27
NAME	CDX	30208	94/09/28
NAME	DBF	55320	94/09/28
ONERROR	DBF	225	93/07/09
ONERROR	FPT	512	93/09/09
PRODUCT	CDX	8704	94/09/08
PRODUCT	DBF	13528	94/09/08
PRODUCT	FPT	14272	94/09/08
PROMFILE	CDX	7680	94/11/11
PROMFILE	DBF	23850	94/11/11
PTEMP	DBF	3360	94/10/05
PTOTALS	CDX	3072	94/10/05
PTOTALS	DBF	1592	94/10/05
REF_SOUR	CDX	40448	94/10/05
REF_SOUR	DBF	31198	94/10/05
REFS	CDX	18944	94/10/05
REFS	DBF	10976	94/10/05
REFS	FPT	23991	94/10/05
REPTLIST	DBF	1450	94/04/29
REPTLIST	FPT	512	94/04/29
RESERVES	CDX	7168	94/10/05
RESERVES	DBF	8484	94/10/05
RESERVES	FPT	39424	94/10/05

ROCKS	CDX	16896	94/10/05
ROCKS	DBF	137933	94/10/05
SKETCH	CDX	3072	94/10/04
SKETCH	DBF	193	94/10/04
SKETCH	FPT	512	94/10/04
STRUCTUR	CDX	14336	94/10/05
STRUCTUR	DBF	14717	94/10/05
VISITS	CDX	8192	94/09/15
VISITS	DBF	13542	94/09/15
VISITS	FPT	328704	94/09/15
59 files	3,275,054 bytes		

CONVERSION FACTORS FOR MEASUREMENTS IN ONTARIO GEOLOGICAL SURVEY PUBLICATIONS

Conversion from SI to Imperial			Conversion from Imperial to SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
		LENGTH			
1 mm	0.039 37	inches	1 inch	25.4	mm
1 cm	0.393 70	inches	1 inch	2.54	cm
1 m	3.280 84	feet	1 foot	0.304 8	m
1 m	0.049 709 7	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	1.609 344	km
		AREA			
1 cm^2	0.155 0	square inches	1 square inch	6.451 6	cm^2
1 m^2	10.763 9	square feet	1 square foot	0.092 903 04	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
		VOLUME			
1 cm^3	0.061 02	cubic inches	1 cubic inch	16.387 064	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.308 0	cubic yards	1 cubic yard	0.764 555	m^3
		CAPACITY			
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	4.546 090	L
		MASS			
1 g	0.035 273 96	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 75	ounces (troy)	1 ounce (troy)	31.103 476 8	g
1 kg	2.204 62	pounds (avdp)	1 pound (avdp)	0.453 592 37	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	907.184 74	kg
1 t	1.102 311	tons (short)	1 ton (short)	0.907 184 74	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	1016.046 908 8	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	1.016 046 908 8	t
		CONCENTRATION			
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

	Multiplied by	
1 ounce (troy) per ton (short)	20.0	pennyweights per ton (short)
1 pennyweight per ton (short)	0.05	ounces (troy) per ton (short)

Note: Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.